

THE INDEPENDENT JOURNAL OF THE LARGE FORMAT MOTION PICTURE INDUSTRY

LF Examiner®

Feb.-March 2017
Vol. 20, No. 2

Our 20th year of Examining!

Special Report: GS and IMAX Theaters in 2016

In our twentieth annual report on the status of giant-screen and IMAX theaters worldwide, the total count is up, thanks to **Imax Corporation's** continued expansion in multiplex theaters around the world, especially in China, but the number of non-multiplex screens was essentially unchanged over the past year. Also, the conversion of theaters from film to digital projection, and the growth of laser-illuminated systems, continues rapidly. The number of installed GS film projectors fell by almost 10% in 2016.

As of Jan. 1, 2017, the world's total of giant-screen and IMAX theaters stood at 1,311, up from 1,149 at the same time last year, a net increase of 162, or 14%. In 2016, 165 new theaters opened, three closed (two temporarily), and 28 converted from film to digital or added digital.

As has been the case for the last four years, all of the new theaters were equipped with IMAX projectors, and all

(see **THEATERS** on page 6)

Inside LF Examiner

Premiering in February and March	2
The Biz: News, Personnel	4-5
In Production	12-13
Bookings Data	18-21
Directory	22-23
Classified Ads	23
Shorts	24

VR: What It Means for GS Theaters and Producers

by Paul Fraser

Virtual reality is the new, big thing. Lots of hype about it. In the giant-screen and fulldome communities, I've seen a range of reactions to VR: interest, avoidance, curiosity, skepticism, experimentation, strong commitment to it, and even fear.

On the one hand, some may ask: If VR becomes mainstream and can deliver the full immersive theater effect at home, why should people continue to attend giant-screen or fulldome films in a theater?

But others may ask: Why should we be worried about VR at all? Think about when VHS became mainstream, or when home theaters became an affordable reality, or when streaming services like Netflix started. With each disruptive new technology, content producers and theater operators needed to adapt; they did, and they will again in response to VR.

In other words, is VR a threat, or a synergistic opportunity, for immersive theater operators and content producers?

First, where is VR now in its current life cycle? Last year was supposed to be the breakout year for VR. Well, not quite, although there certainly were a lot of exciting consumer-oriented VR content and applications.

Some industry metrics: In 2016, the VR industry shipped more than 6 million devices and generated almost \$2 billion in revenue. This was below expectations, though some analysts say this wasn't too shabby for an emerging technology. And this doesn't capture the uses of VR beyond individual headsets.

(see **VR** on page 14)

IMAX Laser Dome System Due in Fall 2018

In mid-March, **Imax Corporation** sent e-mails to dome theater operators advising them of its "plans to design and produce an IMAX Laser Dome System available for delivery in September 2018." Although the company had previously said the system would consist of two projectors placed in the rear gallery, behind the seats, the March 14 e-mail said it will be "a single projector system...installed in your current projection room and doghouse (not a rear projection booth)," adding, "the single-projector design and utilization of the doghouse will minimize refurbishment costs to upgrade to IMAX Laser Dome."

The e-mail was sent on behalf of president for global sales and theater development **Don Savant** and president for IMAX theaters **Mark Welton**.

In mid-2012, Imax hired **Steen Iversen**, a dome expert who had developed innovative digital systems in the **Tycho Brahe Planetarium** in Copenhagen, to help design a new dome system, with an expected delivery date of late 2013 (see *The Biz*, May-June 2012). That date passed with no dome system.

At the 2014 annual conference of the **Giant Screen Cinema Association** in Toronto (see **IMAX** on page 3)

Premiering in February and March

The Lego Batman Movie
Dream Big
The Great Wall
Earthflight 3D
Logan
Kong: Skull Island
Ghost in the Shell

See page 2.

Founded 1997 as MaxImage!

Feb.-March 2017
Vol. 20, No. 2

Editor/Publisher
James Hyder

Associate Editor
William Hyder

Circulation Manager
Thomas Jacobs

Published 9 times a year by
Cinergetics, LLC, and distributed
by first class mail.
Printed in the USA.

ISSN 1532-5504

Subscriptions: US\$447
Outside North America: US\$487
All payments must be made in
US funds.
Substantial discounts are
available for multiple subscrip-
tions to the same address.

Editorial Offices
8713 Castle Hill Ave.
Las Vegas, NV, 89129 USA
Tel: 702-331-1843
editor@LFexaminer.com

©2017 by Cinergetics, LLC
All rights reserved. No portion
of this publication may be repro-
duced by any means without
written permission of the copy-
right holder.

Copyright Warning and Notice
It is a violation of U.S. and
international copyright laws to
reproduce all or part of this
publication or its contents by
any means. The U.S. Copyright
Act imposes liability of up to
\$150,000 per issue for such
infringement.

Information concerning illicit
duplication will be gratefully
received.

Individuals and organizations
wishing to reprint articles from *LF
Examiner* must obtain written
permission from us in advance.

The opinions of contributors are
not necessarily those of *LF
Examiner* or its parent company,
Cinergetics, LLC.

Trademarks referred to in *LF
Examiner* are the property of their
respective owners.

Premiering in February and March

The Lego Batman Movie

"In the irreverent spirit of fun that made The LEGO Movie a worldwide phenomenon, the self-described leading man of that ensemble – LEGO Batman – stars in his own big-screen adventure. But there are big changes brewing in Gotham, and if he wants to save the city from The Joker's hostile takeover, Batman may have to drop the lone vigilante thing, try to work with others and maybe, just maybe, learn to lighten up."

Produced and distributed by **Warner Bros.** Directed by **Chris McKay**. Starring the voices of **Will Arnett, Ralph Fiennes, Jenny Slate, Rosario Dawson, Mariah Carey, Zach Galifianakis, Michael Cera, Billy Dee Williams**. 2D. DMR. Release: Feb. 10.

Dream Big: Engineering our World

"*Dream Big* will leverage the scale of the giant screen to showcase some of the world's modern engineering marvels. From the Great Wall of China to record-reaching skyscrapers in Dubai to bridges soaring above the clouds in France, audiences will experience the massive scale and the forces of nature that challenge their designers. Audiences will follow students on a Solar Challenge as they race across Australia in cars totally powered by the sun, as we explore how engineers are working to build a more sustainable world. The first giant-screen film to focus specifically on STEM, *Dream Big* celebrates the engineers who are pushing the limits of innovation and ingenuity in unexpected, and forward-thinking ways. Together with extensive outreach programs, the film will explore how we use science and technology to build, invent, and shape our world. Made in partnership with the American Society of Civil Engineers."

Produced and distributed by MacGillivray Freeman Films. Directed by **Greg MacGillivray**, produced by **Shaun MacGillivray**, photographed by **Brad Ohlund**, Greg MacGillivray, and **Ron Goodman**. Release: Feb. 17.

The Great Wall

"*The Great Wall* tells the story of an elite force making a valiant stand for humanity on the world's most iconic structure. The first English-language production for director **Yimou Zhang** is the largest film ever shot entirely in China."

Produced by **Legendary Pictures** and distributed by **Universal Pictures**. Directed by Yimou Zhang. Starring **Matt Damon, Pedro Pascal, Willem Dafoe, Tian Jing, Andy Lau**. DMR. Release: Feb. 17.

Earthflight 3D

"*Earthflight* is a totally immersive experience, taking the audience on an incredible flight across the world on the wings of birds. Revolutionary aerial techniques and state-of-the-art 3D cameras deliver the reality of flying right alongside the birds as we join a variety of different species on their seasonal journeys. As we fly with the birds on their migrations, they take us to some of the greatest sights and animal events on earth. Great white sharks spectacularly leap so close you could touch them, snow geese dash through Monument Valley and New York City with wing tips coming right out of the screen, and vultures soar miles above the earth then dive down to huge wildebeest herds below. It's a thrilling experience as the audience is plunged into the center of the flock. *Earthflight* travels deeper into the action than ever before."

Produced by **John Downer Productions** and **BBC Earth**, distributed by **BBC Earth** and **Giant Screen Films**. Directed, produced, and written by **John Downer**; photographed by **Michael W. Richards, Neil Rettig, and Richard Jones**; score by **Steven Faux** and **Will Gregory**. Executive producers: **Neil Nightingale, John Downer**. Narrated by **Cate Blanchett**. Release: February.

Logan

"Logan and Professor Charles Xavier must cope with the loss of the X-Men when a corporation led by Nathaniel Essex is destroying the world leaving it to destruction, with Logan's healing abilities slowly fading away and Xavier's Alzheimer's forcing him to forget. Logan must defeat Nathaniel Essex with the help of a young girl named Laura Kinney, a female clone of Wolverine."

Produced and distributed by **Twentieth Century Fox**. Directed by **James Mangold**. Starring **Hugh Jackman, Boyd Holbrook, Patrick Stewart, Doris Morgado, Richard E. Grant, Stephen Merchant, Dafne Keen**. 2D. DMR. Release: March 3.

Kong: Skull Island

"Following the 2014 success of the global reinvention of the Godzilla franchise, **Legendary** and **Warner Bros.** have come together again to create an epic, new shared cinematic franchise. It's a powerful human drama, unmissable spectacle and new vision of nature's true king. *Kong: Skull Island* invites audiences on an uncharted journey into the heart of one of the greatest myths."

Produced by **Legendary Pictures** and distributed by **Warner Bros.**; Directed by **Jordan Vogt-Roberts**. Starring **Brie Larson, Tom Hiddleston, Samuel L. Jackson, Toby Kebbell, Tian Jing, John Goodman**. DMR. Release: March 10.

Beauty and the Beast

"Disney's *Beauty and the Beast* is a live-action re-telling of the studio's animated classic which refashions the classic characters from the tale as old as time for a contemporary audience, staying true to the original music while updating the score with several new songs."

Produced and distributed by **Walt Disney Pictures**. Directed by **Bill Condon**. Starring **Emma Watson, Ewan McGregor, Dan Stevens, Luke Evans, Emma Thompson, Gugu Mbatha-Raw, Josh Gad, Ian McKellen, Stanley Tucci, Kevin Kline**. DMR. Release: March 17.

Ghost in the Shell

"Based on the internationally-acclaimed sci-fi property, *Ghost in the Shell* follows the Major, a special ops, one-of-a-kind human-cyborg hybrid, who leads the elite task force Section 9. Devoted to stopping the most dangerous criminals and extremists, Section 9 is faced with an enemy whose singular goal is to wipe out Hanka Robotic's advancements in cyber technology."

Produced and distributed by **Paramount Pictures**. Directed by **Rupert Sanders**. Starring **Scarlett Johansson, Michael Wincott, Michael Pitt, Juliette Binoche, Pilou Asbæk**. DMR. Release: March 31.

Imax Announces Laser Dome Rollout

(from *IMAX* on page 1)

ronto, Imax chief technical officer **Brian Bonnick**, describing the anticipated new IMAX laser system, told attendees that the new dome system would be available in late 2015 (see *December 2014*). A few months later, in December 2014, Imax installed its first laser-illuminated projection system in flatscreen multiplex theater in Toronto.

In the fall of 2015, Imax began asking dome operators what they thought of putting a single laser projector in the doghouse instead of using the “two projectors in the rear gallery” configuration (see *Shorts, September 2015*). Apparently the consensus favored the latter, and late 2015 came and went with no dome system.

In May 2016, Imax invited dome managers to a demonstration of a preliminary system at the **Science Museum of Minnesota**, which had signed up to be the first IMAX laser dome site. That demo featured a single laser projector in the rear of the theater, but with a lens that could only cover about 60% of the full area of the dome. Although the demo was viewed favorably (see *May/June 2016*), Imax reps did not have an answer for the most obvious question: When?

As we reported at that time, the rear booth configuration has posed significant problems, in part because of the variations in the size, placement, and configuration of that space from theater to theater. In some cases, the build-out costs to prepare the gallery for the massive IMAX laser projectors turned out to be a significant fraction of the price of the projection system. The customized lenses needed for the rear placement would also be more expensive than those needed for the doghouse position.

Imax did not respond to *LF Examiner's* request for additional information about the newly announced system and the reasons for the configuration change and the further 18-month delay.

Presumably, some aspect of the original two-projector arrangement has proved to be too expensive or time-consuming to

continue pursuing, so the company has decided to switch to the single-projector solution. However, the fact that even this version will not be available for another year and a half suggests that it is not exactly the “easy way out.”

Several difficulties suggest themselves. First is that the external dimensions, lens position, heat exhaust requirements, and other physical characteristics of the current IMAX laser projector are quite difference from those of the GT 15/70 film projectors for which the doghouses and elevators in IMAX Dome theaters were designed. So the projector may require a significant redesign before it can fit into the doghouse position.

Will the laser projector be permanently mounted in the doghouse, far above the floor of the original projection booth under the seating deck, and if so, how will it be serviced? Or will it ride up and down on the elevator that transported the film projector, and if so, how will that affect its calibration and reliability? Will that require significant redesign or reconfiguration of the elevator?

Another issue is that the current IMAX laser system and the proprietary digital cinema packages (DCPs) that it plays are both predicated on two projectors. The demo in Minnesota last year required the temporary installation of two projectors, even though only one actually projected an image. The encryption system, using a superset of the **Digital Cinema Initiatives** (DCI) specification, has to communicate with both projectors before it will play the DCP. Modifying both the hardware and the encryption scheme for the DCP to permit single-projector operation will presumably require some time and effort.

One probable upside of switching from two projectors to one would be a significantly lower initial cost to theaters. One the other hand, although it is possible to increase the number of laser modules in a single projector, it seems unlikely that one projector will be able to put out just as much light as two, if only because of the risk of overheating the lens. Another

downside of the single-projector solution is that its resolution will be fixed at 4K, without the image enhancement tech that Imax claims its two-projector systems provide.

In contrast, competitor **D3D Cinema** has a three-projector 6K laser system and **Evans & Sutherland** offers fulldome systems in multiple configurations that range from 4K to 8K, with laser projection as an option.

LFX e-mailed some 35 dome operators about the news and heard from four who had received the e-mail and two (at non-IMAX domes) who had not. **Michelle Duncan**, of the **Tech Museum of Innovation** in San Jose, CA, was pleased with the news and found the time frame “completely acceptable.” As for the configuration, she said, “I had always hoped there would be a doghouse solution, as our upper booth area would have required substantial structural changes with a significant cost associated to the construction. I’m not worried about a single-projector solution for a dome and believe that, once completed, it will provide the best contrast and brightness available for a dome, allowing us to continue to be the most immersive movie experience.” She hopes to be one of the first installations in Fall 2018.

Berend Reijnhoudt, of the **OmniVersum** in the Netherlands, is also fine with the 2018 rollout, but says, “I was looking forward to a two-projector system” because he could have added seats in the doghouse area, and because “I was hoping for an improvement of the quality of the picture on the dome. If this can be realized with one projector, this would, of course, be even better. I like the economics of a one-projector system, but I hope we can sell it to our audience as an upgrade of the experience.” He says he is still considering other systems as well, and will make a decision “as soon as I have seen the IMAX system.”

Gary Monti, at the **Cradle of Aviation Museum** in Garden City, NY, has had a contentious relationship with Imax for

(see *IMAX* on page 16)

THE BIZ

NEWS

Imax reports Q4, 2017 results

On Feb. 23, **Imax Corporation** reported its financial results for the fourth quarter and full year of 2016. For the fourth quarter ending Dec. 31, 2016, the company reported a profit of \$8.9 million (\$0.13 per share, diluted) on revenues of \$106.9 million, down 60% from a \$22.5 million profit (\$0.32 per share, diluted) on revenues of \$119.3 million in the same quarter of 2015. For the year ending Dec. 31, Imax posted a profit of \$28.8 million (\$0.24 per diluted share) on revenues of \$377.3 million down 48% from \$55.8 million (\$0.78 per diluted share) on revenues of \$373.8 million in 2015.

The company signed deals for 319 new theaters during the year, up from 138 in 2015, and installed 166 new theater systems, a 22% increase over the previous year. (See also our special report on theaters in 2016 on page 1.)

Imax shares, which had been in a slight slump just before the announcement, jumped from \$31.15 the day of the announcement to \$32.75 the day afterward. They have since risen as high as \$34.25.

Kuwait museum to go IMAX laser

The **Scientific Center of Kuwait** will exchange its 16-year-old IMAX SR 15/70 film projectors for an IMAX laser system in June 2017. Located in Kuwait City, the Scientific Center's IMAX theater seats 250 and has a screen that is 48.4x65.6 feet (14.8x20 meters).

The installation will be the 41st IMAX laser theater worldwide.

Paris' La Géode to make changes

Universcience, a partnership between Paris' **Cité des Sciences et de l'Industrie** and the **Palais de la Découverte**, issued a call in January for "innovative projects" for **La Géode**, the 32-year-old IMAX Dome theater housed in a distinctive silver dome next to the Cité. Since 1985 La Géode has been operated by a government-owned corporation or SEM (*société d'économie mixte*, literally, "mixed economy

company") that has programmed and operated the 400-seat theater and the other spaces in the spherical building.

Under its current management, La Géode has made many efforts to diversify its offerings, but the announcement cites the problem of competition from the "proliferation of screens and formats...and high-tech home and mobile viewing devices."

That existing management contract ends at the end of the year, and Universcience is seeking an operator that will offer "new experiences." The announcement says the selection process will be based on "a competitive dialog" and that the winning project will be selected on the basis of "objective criteria relating to its cultural, social, and financial aspects."

It is unclear whether this would entail replacing the 15/70 film projector with some other kind of projection system, or even continuing to use the auditorium and its 85-foot (25.9-meter) dome for theatrical events.

Imax, Disney extend film deal

In February **Imax Corporation** and the **Walt Disney Company** announced that they were extending their association with a new multi-picture deal that will run through 2019 and include at least 16 new films. The deal covers titles from Disney as well as subsidiaries **LucasFilm**, **Marvel**,



La Géode in Paris.

Pixar, and **Walt Disney Animation Studios**. They include:

Beauty and the Beast (now in theaters)
Star Wars: The Last Jedi (Dec. 2017)
Marvel's *Black Panther* (Feb. 2018)
Untitled Wreck-It Ralph sequel (March 2018)
A Wrinkle in Time (April 2018)
Avengers: Infinity War (May 2018)
Untitled Han Solo Star Wars anthology film (May 2018)
The Incredibles 2 (June 2018)
Ant Man and the Wasp (July 2018)
Mulan (Nov. 2018)
Captain Marvel (March 2019)
Untitled Avengers sequel (May 2019)
Star Wars: Episode IX (May 2019)
Toy Story 4 (June 2019)
Untitled Indiana Jones film (July 2019)

The *Avengers* films, directed by brothers **Anthony** and **Joe Russo**, are being filmed in their entirety with IMAX digital cameras, as were key scenes in *Star Wars: The Last Jedi*, directed by **Rian Johnson**.

THE BIZ

NEWS

Others of the films will have sequences presented in an expanded aspect ratio exclusively in IMAX theaters.

30-screen IMAX deal in China

Imax Corporation and Imax China have signed a deal with Bona Film Group to open 30 new IMAX theaters throughout China between now and 2022. Bona is a film production company, distributor, and exhibitor and currently operates four IMAX theaters among its 336 screens in 41 locations. The deal will bring the chain's IMAX total to 35.

Bona's film production division partnered with Imax on the first IMAX 3D release of a Chinese language film, *Flying Swords of Dragon Gate*, in 2011.

GSF making *Hidden Pacific*

Giant Screen Films and L.A.-based Tandem Stills + Motion, a provider of images and video of nature, culture, and adventure sports, are partnering to produce *Hidden Pacific* (wt), a giant-screen film about "the Pacific Ocean's protected and remote

national wildlife refuge islands and marine national monuments," according to a press release. Filming at the Palmyra Atoll and Midway Atoll is complete, and the last production shoots will be completed in April. Release is set for late 2017.

The film is being directed and produced by Ian Shive, founder of TSM.

Blaze changes name and location

As of Jan. 1, 2017, Blaze Digital Cinema Works has been renamed Blaze Cineworks and has relocated from Connecticut to St. Petersburg, FL. Founded by Paul Fraser in December 2006, the firm offers independent consulting and project management for clients in exhibition, distribution, and production. Blaze's specialty is guiding museum theater clients through the business planning for, and acquisition of, new digital projection systems.

The firm's new address is 10460 Roosevelt Blvd N, #180, St. Petersburg, FL, 33716. Fraser can be reached at paul@blazecineworks.com.

Sony Post adds IMAX dub stage

Sony Pictures Post Production Services in Culver City, CA, has added an audio mix stage exclusively for the new IMAX 12-channel sound format, the only one on the west coast of the U.S. The studio features an 24-fader Avid S6 console, four Avid HDX-3 digital audio workstations, a Sony 4K projector with RealD 3D, and JBL and IMAX speakers.

Glenn Shaver leaves OSC for OP

Glenn Shaver has left Toronto's Ontario Science Centre, where he has worked for nearly 29 years, most recently as director of featured products, effective March 22. His new position is at Ontario Place, where he spent the first seven years of his career, after graduating from Ryerson University in 1981.

In an e-mail to GS industry colleagues, Shaver says his new position at Ontario Place will be Senior Manager Transformation, and that he is "very excited about the opportunity to join the team at Ontario Place that will work to revitalize and re-open the site," adding that "it is my intention, at least initially, to remain involved with the giant-screen industry."

Ontario Place is a theme park in Toronto, on the shore of Lake Ontario, developed and run by the provincial government from 1971 until 2012. It was the home of the first permanent IMAX theater, in the Cinesphere, a geodesic dome. Although located in a dome, the theater has a flat screen 60x80 feet, (18x24 meters). It closed in 2012.

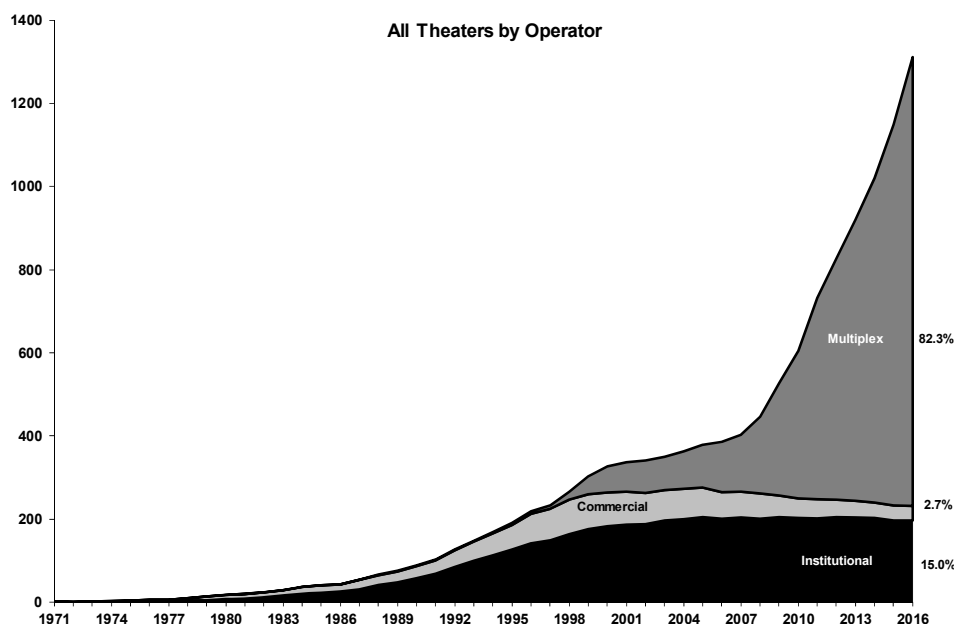
The redevelopment plans called for the park to reopen on July 1, 2017, to coincide with Canada's 150th birthday, but recent press reports say that that deadline will not be met.



Glenn Shaver



The Cinesphere in Toronto's Ontario Place.



(from *THEATERS* on page 1)

but one were multiplex theaters. The single new institutional theater was the **Parque del Conocimiento** (Park of Knowledge) in Posadas, Argentina, which opened in September with an IMAX first-gen digital system.

At the start of 2017 there were 1,079 multiplex theaters, 197 institutional theaters, and 35 commercial theaters. (Theme park theaters, which we have previously treated as a separate category, now represent less than 1% of the total. Therefore, starting this year we include the 11 theme park theaters in the “commercial” category.)

There are 1,159 digital-only screens (42 laser powered), 124 theaters with 15/70 film projectors (of which 53 also have digital projection), 22 with 8/70 systems (six with digital as well), and six with 10/70 projection (one with digital). A total of 60 theaters have both film and digital projection capability.

Looking at the 232 non-multiplex theaters, 116, exactly half, are digital only, and another 25 have digital and film capability; thus 61% have digital capability.

The count of true giant-screen theaters, as defined by the **Giant Screen Cinema Association**, stands at 257. (See page 10 for a description of what we count.)

All theaters in 2016				
Operator	Opened	Closed	Net	Total
Commercial	1	2	-1	35
Multiplex	163		163	1,079
Institutional	1	1	0	197
Total	165	3	162	1,311

Openings, closings, conversions

Openings. Imax Corporation installed 165 new theater systems in 2016, 115 of which (70%) were in China. The next closest country, the U.S., got nine, Japan got six, and Russia got four. This year, for the first time, the U.S. is no longer the leader in IMAX theaters. China has 399 compared to 392 in the U.S. Next are Russia and Canada, tied for third with 45, the U.K. with 42, and Japan with 31.

The more notable IMAX openings in 2016 include the first IMAX theater on a cruise ship, the *Carnival Vista*, which was launched on May 1 with a 187-seat IMAX digital theater and a 24x43-foot (7x13 meter) screen. Another unique new IMAX installation is IMAXShift in Brooklyn, NY, a fitness center that uses an IMAX projection system in front of some 50 stationary bikes (see *Shorts, May-June 2016*). However, we do not count it here, or in our database, as a theater.

Imax’s official count of IMAX theaters, as of Dec. 31, 2016, stands at 1,215 in 75

countries: 1,107 in multiplexes, 92 in institutions, and 16 in commercial venues. (Our counts, based on the data the company provided, differ somewhat from these numbers, for reasons that aren’t entirely clear.)

Closures. Only three theaters closed last year, and only one of those closures was permanent. The **Riverfront Park IMAX Theatre** in Spokane, WA, closed in September after 38 years of operation. As we have reported previously (see *Shorts, September 2016*), the city-owned theater, located in a downtown park, had been operating at a loss for some time, and calls to upgrade it from film to digital were not heeded by local officials. It was one of the world’s first ten IMAX theaters and was the fourth-oldest extant IMAX theater when it closed last fall.

The other two closures were the **Robert D. Lindner OMNIMAX** in Ohio’s **Cincinnati Museum Center**, and the **LG IMAX, Darling Harbour** in Sydney, Australia. Both will reopen in the next few years, the former after major renovations to the historic train station in which it is located are finished in late 2018, the latter in a new building being erected on the same site that is expected to be completed in 2019. Sydney’s new theater will be an IMAX, and will have the world’s largest screen, like its predecessor. The Cincinnati Museum Center has not yet decided what projection system it will install while closed.

Conversions. Some 19 theaters converted from film to digital projection, and four added digital while keeping their film systems. Eleven theaters switched from IMAX film to the IMAX laser system, and two kept film and added IMAX laser. Five IMAX theaters with the first-gen digital system switched to IMAX laser. Three former IMAX film theaters replaced their 15/70 machines with non-IMAX laser systems, and five others dropped IMAX film for conventional lamp-based digital. One theater switched from IMAX film to the first-gen IMAX digital system.

Lasers are here

The big news in giant screens is the growth of laser-illuminated systems. Twenty-two theaters switched to or added laser systems in 2016, of which all but four

(from **FILMS** on page 6)

were IMAX. Twelve institutional theaters got lasers, including the **New Mexico Museum of Space History** in Alamogordo, which traded its 36-year-old IMAX 15/70 projector for a laser-powered Spitz full-dome system in its 40-foot (12-meter) dome last summer. It became the world's first dome theater to get laser projection. (However, it is not a GS dome, according to the GSCA spec.) A few months later, the **Great Lakes Science Center** in Cleveland, OH – which, at 79 feet (24 meters), is a true giant screen – got the first **D3D/Christie** laser dome system (see *December 2016*).

In Gatineau, QC, Canada, across the river from Ottawa, the **Canadian Museum of History** has one of only two theaters in the world capable of switching from dome to flat screen projection. Although it originally used IMAX film for both, last spring it installed two Barco 4K projectors for flat screen shows, keeping the 17-year-old 15/70 film projector for dome shows only. The flat-screen former IMAX theater at the **National Naval Aviation Museum** in Pensacola, FL, another D3D installation, switched to a 2D Christie 4K laser projector in July, one of the few digital conversions to eschew 3D.

Among the museums that upgraded to IMAX laser were **Science North** in Sudbury, ON, Canada; the **Bullock Texas State History Museum** in Austin; Chattanooga's **Tennessee Aquarium**; the **Museum of Discovery and Science** in Fort Lauderdale, FL; and the **Smithsonian's National Air and Space Museum** in Washington, DC.

Commercial theaters going for IMAX laser included **Branson's IMAX Entertainment Complex** in Missouri; the former IMAX 2D theater in France's **Futuroscope** theme park; and Chicago's **Navy Pier IMAX**, which will be one of the hosts of the 2017 annual conference and trade show of the **Giant Screen Cinema Association** in September. (The other host, the **Museum of Science and Industry**, will replace its 31-year-old IMAX film projector with the new D3D/Christie dome laser system in May.)

Finally, although this report focuses on theaters and system in operation as of the

first of the year, several other theaters are now, or soon will be, installing lasers: Atlanta's **Fernbank Museum of Natural History** replaced its 25-year-old IMAX film projector with a Christie 4K laser system installed by D3D Cinema in February; at about the same time, the **Montreal Science Centre** switched to IMAX laser; and in May, the **Hearst Castle Theater** in San Simeon, CA, operated by **Destination Cinema, Inc.**, will replace its 21-year-old **Iwerks** 8/70 film projector with a Barco 4K laser system. And as this issue went to press, the **Scientific Center of Kuwait** announced that it would switch from IMAX film to IMAX laser in June 2017.

Film theaters

As of Jan. 1, 2017, there were 157 theaters capable of showing one of the three GS film formats – 15/70, 8/70, and 10/70 – including 60 that also have digital projection. This is down from 173 at the start of 2016. Six **GOTO** Astrovision 10/70 projectors remain operational in India, Bangladesh, China, and Egypt. As many as 22 theaters may have working 8/70 projectors, although we could not verify that six of them are still operational. Four theaters with 8/70 systems still in place confirmed that they no longer use them. Thus only 12 venues are known to be running 8/70 prints on a regular basis.

At least four of the 16 15/70 projectors built by **Cinema Development Company**

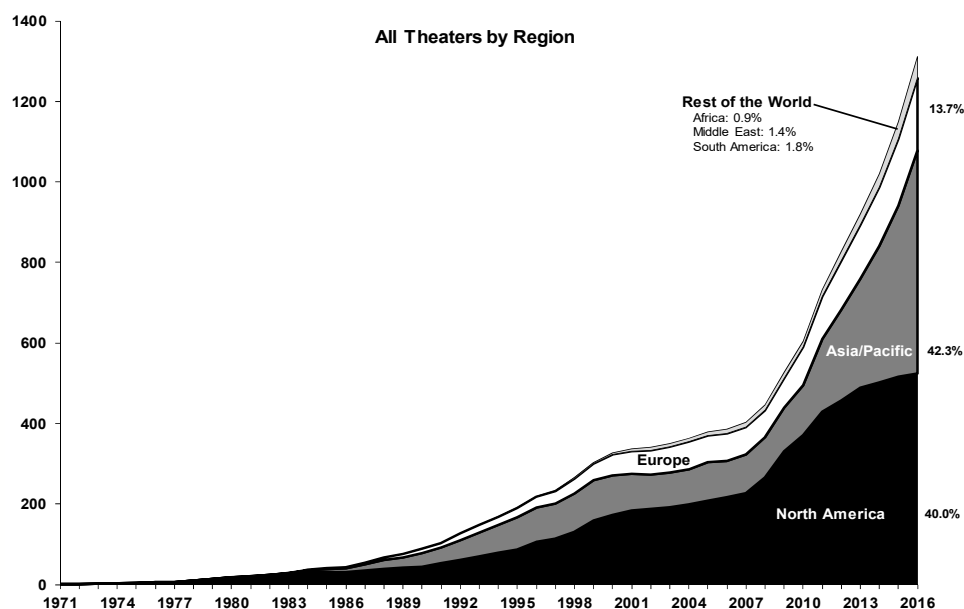
for **Iwerks Entertainment** (now **SimEx/Iwerks**) are still in use at Florida's **Orlando Science Center**; **Science Spectrum** in Lubbock, TX; the **Eugenides Planetarium** in Athens, Greece; and India's **Pushpa Gujral Science City**. A fifth, at the **Sagamihara City Museum** in Tokyo, may still be in place, but we were unable to confirm that it is still operational.

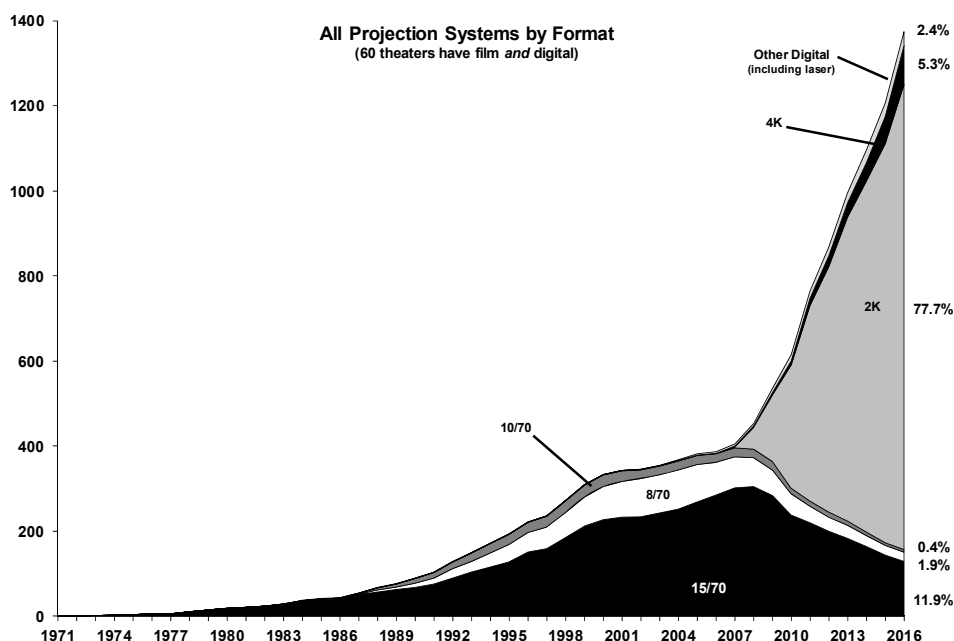
As for IMAX 15/70 systems, 115 remain in use, 47 with digital projection as well. This is down from 142 at the start of 2016, reflecting Imax Corporation's success in converting screens to laser.

However, of those 115, at least 35 are in multiplex booths with either a first-gen IMAX system or an IMAX laser. Nearly all have been dormant since **Christopher Nolan's *Interstellar*** ended its run in early 2015, and most would probably require significant maintenance to be made ready for his next film, ***Dunkirk***, coming in July. (As usual, Nolan has shot a large percentage of it on 15/65 film.)

It is not yet known how many 15/70 prints of that film **Warner Bros.** will order, but the only Hollywood features since ***Interstellar*** to be printed to 15/70 – ***Star Wars: The Force Awakens*** (Dec. 2015) and ***Rogue One*** (Dec. 2016) – played in only a dozen or so IMAX film theaters, nearly all of them in museums, not multiplexes. A handful of multiplexes in major markets may bring their 15/70 systems

(see **THEATERS** on page 8)





(from **THEATERS** on page 7)

out of mothballs for *Dunkirk* this summer (assuming they can find projectionists to run them), and they will be joined by more institutional theaters, but it appears unlikely that *Dunkirk* will approach the 50+ IMAX film bookings *Interstellar* had.

So the number of 15/70 projectors now actively in use is around 84, and will continue to drop as theaters convert to digital. Looking at the chart above, if we assume that the decline in 15/70 theaters will continue in the same linear fashion as it has since 2010, they will all be gone by around 2023. Of course, it is probable that a tipping point could arrive before then, as film prints become more rare and expensive, sparking a faster decline.

Even so, some theaters could choose to continue running their film projectors alongside the digital systems, playing library films that haven't been converted to digital. With careful maintenance, these systems could be operated indefinitely, as long as prints (and projectionists) haven't all faded away.

2D vs. 3D, dome vs. flat

Virtually all digital installations have 3D capability, including all of 2016's new theaters. As of Jan. 1, 3D screens accounted for more than 90% of all IMAX and giant-screen theaters, including all multiplex theaters. Only 21 non-multiplex flat-

screen theaters are 2D, including all 8/70 and 10/70 venues. Most dome theaters are 2D: only eight of the 107 domes have 3D capability, thanks to digital fulldome systems. (The only extant IMAX "Solido" system — 3D 15/70 film in a dome — is at the **Futuroscope** theme park in France.)

Of the 232 non-multiplex theaters, 122 have flat screens, 104 have domes, and two are convertible. One dome theater closed (temporarily) last year. The most recent new dome theater opened in 2012.

True giant screens

The GSCA has defined "giant screen" as domes at least 60 feet (18.3 meters) in diameter, or flat screens that are at least 70 feet (21.3 meters) wide or at least 3,100 square feet (288 square meters) in area, with all seats placed less than one screen width from the screen plane. As of Jan. 1, 2017, some 257 theaters meet that standard.

Of these, almost 60% (150) are institutional, about 30% (80) are in multiplexes and the remaining 10% (27) are commercial theaters. Slightly more than half of true giant screens are digital-only, 30% are film-only, and the rest have both. Twenty-nine (11%) have laser projectors. One third (85) are domes, the rest flat screens. Two-thirds (176) are IMAX theaters.

The count of true GS theaters has been trending down slowly over the past dec-

ade, since reaching a peak of 287 in 2007. Institutional screens have dropped by six since then, multiplexes by three, with the largest drop coming in the commercial segment, which has lost 15 from its peak of 48 in 2007.

Giant fulldomes

To date, our counts have not included giant domes in planetariums and fulldome theaters that did not originally have a GS film projector. According to **Loch Ness Productions**, a Colorado-based fulldome production company that maintains a detailed database of fulldome theaters worldwide, there are more than 120 fulldome theaters that meet the GSCA spec of a dome greater than 60 feet (18.3 meters) in diameter. Adding them would substantially boost the count of non-multiplex giant screens, which now stands at 232, and we are considering doing so in the coming year. (A future article in *LF Examiner* will look at the growth of giant fulldome theaters and the possible convergence of the GS and fulldome worlds.)

A growing number of GS films are being converted to digital and played in fulldome theaters, and at the same time more GS domes are considering fulldome systems as worthy replacements for film. Some 38 former film domes now have fulldome systems, and although the majority of them were planetariums with an opto-mechanical starball before going digital, several were not.

The **Cradle of Aviation Museum** on New York's Long Island was the leader, adding a Global Immersion (now **Electro-sonic**) fulldome system to its 76-foot (24-meter) dome in 2012. The **Milwaukee Public Museum** in Wisconsin followed suit with an **Evans & Sutherland** Digistar system in 2013, as did the **Science Museum of Virginia** in 2014 and **Science Centre Singapore** in 2015. All four of these former IMAX theaters kept their IMAX 15/70 film projectors, but dropped the IMAX brand. (MPM and SMV have since removed the film projectors.) They have all found the ability to run astronomy shows along with GS films to be advantageous, and enjoy the other options for alternative programming that a digital system permits.

As we note in the article on page 1, Imax has recently announced that installations of its long-awaited laser system for domes, which will feature a single 4K projector, will begin in Fall 2018. In the meantime, D3D Cinema has launched its three-projector 6K system, developed with **Christie Digital** (see *December 2016*), and Evans & Sutherland is actively pursuing the GS market as well (see *Michael Daut's letter, January 2017*). After a very long wait, a digital path forward for GS domes is finally becoming clearer.

Imax's scorecard

To date, Imax Corporation has converted 20 non-multiplex IMAX film theaters to first-gen IMAX digital, and six to the IMAX laser system. In 2016 the company switched (or is currently in the process of switching) 13 more screens to laser, ten from film, three from first-gen digital. At least two more theaters are set to convert to IMAX laser later this year. Thus, as seen in the list on page 11, Imax has switched, or signed to switch, a total of 41 non-multiplex screens to one of its digital systems.

However, since 2008, 41 former IMAX theaters have dropped the IMAX brand and switched to non-IMAX digital projection, including ten laser conversions. Of these, six owned their IMAX projectors outright and continued to use them after they stopped using the IMAX name. (As noted above, only three do so today; two have removed the film projectors and one has closed.)

Many other theaters could be considered losses: they meet the GSCA's standard for giant screens and formerly had a non-IMAX film system. Five of them are flat screens; twenty-five others are domes, for which Imax has not had a definite digital solution until recently.

Adding those five flat screens to the 41 others, we see that, as this issue goes to press, Imax has won 41 and lost 46, a reversal from its position at this time last year, which was 36 wins and 32 losses.

The future of 70mm film

Although film may for some time remain a capture medium for select shots in GS films, and for Hollywood auteurs like

Nolan, **Quentin Tarantino**, and **Martin Scorsese**, its days as an exhibition medium are clearly coming to a end. Multiplex theaters are now virtually 100% digital, and the giant-screen world is rapidly moving in that direction. Half of all non-multiplex GS theaters are digital-only and another 10% have both digital and film projection. The economic forces favoring digital, for both production and exhibition, are simply too compelling to be ignored.

Furthermore, the image quality of digital cameras and projectors, particularly laser projectors, is improving on a nearly daily basis, eliminating the strongest previous arguments for retaining film. In fact, it is becoming clear that digital technology will soon offer enhancements in image quality that were unfeasible or impossible with film. Laser projection has the potential for offering unprecedented levels of brightness, and high frame rate (HFR) and high dynamic range (HDR) could move the giant-screen experience to a new level of realism and immersiveness, if the industry chooses to embrace them.

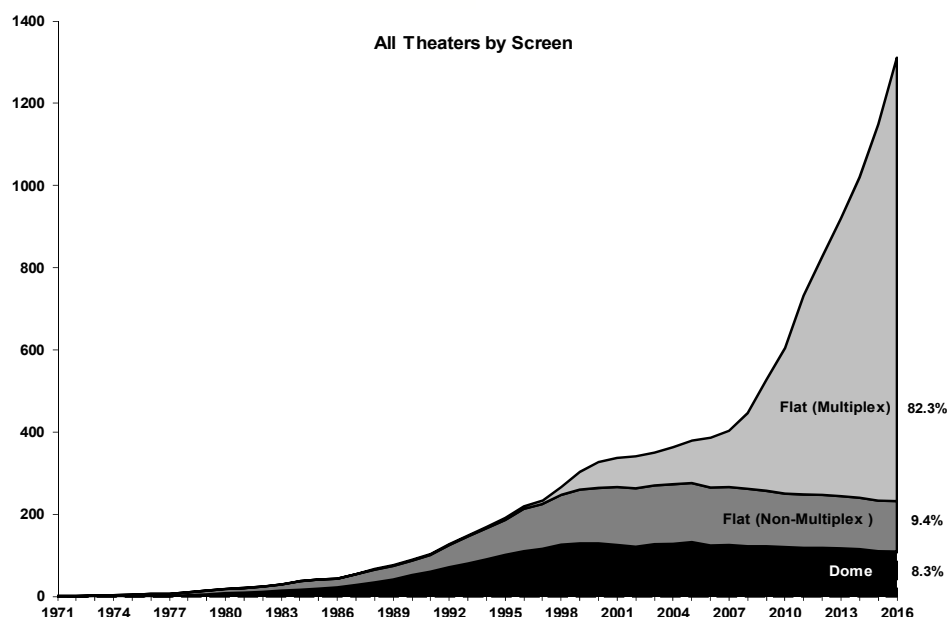
As multiplex cinemas build larger theaters with bigger screens and brighter pictures, the GS industry needs to differentiate itself from conventional movies. For decades it did so primarily through the use of Imax Corporation's technology and the IMAX brand. But over the last decade that brand has been increasingly associated

with Hollywood blockbusters and multiplexes, not the institutional theaters that helped build it.

The fact that Imax designed the IMAX laser system with a 1.43:1 aspect ratio, like its film predecessors, and the time and money it has spent on the laser dome system (see *article on page 1*), indicate that the company still has an interest in the institutional market. But another reason Imax has retained the tall aspect ratio is product differentiation in the multiplex market: the "IMAX DNA" the company often touts. There are dozens of other premium large formats out there, but only IMAX releases expand to fill the whole screen in scenes shot with IMAX (film or digital) cameras.

The institutional giant-screen world also needs to set itself apart from its competition, including multiplex theaters. Dome theaters have an innate advantage, of course, but technologies like HFR and HDR, along with maintaining the tall aspect ratio, could help reinforce the notion that GS films aren't just another movie. The fact that Hollywood is also starting to adopt HFR and HDR could be problematic, but the early public resistance to HFR, as it was used in *The Hobbit*, may provide the GS world a chance to show that when used to capture reality, instead of fantasy, HFR is extremely compelling and realistic.

(see *THEATERS* on page 10)



(from *THEATERS* on page 9)

And where will Virtual Reality and Augmented Reality fit into GS theaters over the next decade? See Paul Fraser's article on page 1.

Giant-screen theaters have been offering the most exciting and compelling cinematic experiences in the world for nearly 50 years. They are now in the middle of a transformation that will determine their place in the landscape of out-of-home entertainment for the next half century.

What we count

This report counts all operating 15/70, 10/70, and 8/70 theaters; theaters that have converted from one of those film formats to digital; IMAX digital theaters, and a growing number of digital theaters in museums, whether DCI-compliant or using a proprietary format such as the new D3D/Christie laser system. This yields a total, as of Jan. 1, 2017, of 1,311 theaters in 74 countries worldwide.

We do not count the one remaining IMAX motion simulator, the IMAXshift cycling studio in Brooklyn, NY, mentioned above, or the two IMAX systems that have been installed in private homes in North America. We do count two IMAX theaters that are not open to the general public: on the Carnival Vista cruise ship, and at the film school of the **University of Southern California**, which is used mainly for instructional purposes.

A film theater is counted as long as it has the capability of showing one of the GS formats, even if it has stopped doing so on a regular basis. If the film projector has been removed or disabled, and no qualifying digital replacement has been installed, we consider the theater "closed."

Digital "insert" projectors, which project a relatively small image on a portion of the screen (flat or dome), are not counted as digital replacements or as dual film/digital capability in the absence of a system that fills all or most of the screen. Not all of these theaters meet the standards established by the Giant Screen Cinema Association for true giant screens: domes at least 60 feet (18.3 meters) in diameter, or flat screens that are at least 70 feet (21.3 meters) wide or at least 3,100 square feet (288 square meters) in area, with all seats placed less than one screen width from the screen plane.

We consider 257 of the 1,311 (20%) as meeting the GSCA spec.

Thanks to data provided this year by Imax Corporation, we have nearly complete details on the screen dimensions of IMAX theaters worldwide. This has enabled us to improve the accuracy of our count of theaters that meet the GSCA spec. Paradoxically, the result has been a reduction in the total count of such theaters. Last year we reported 282 such theaters; this year, with more accurate data, we know the number is 257.

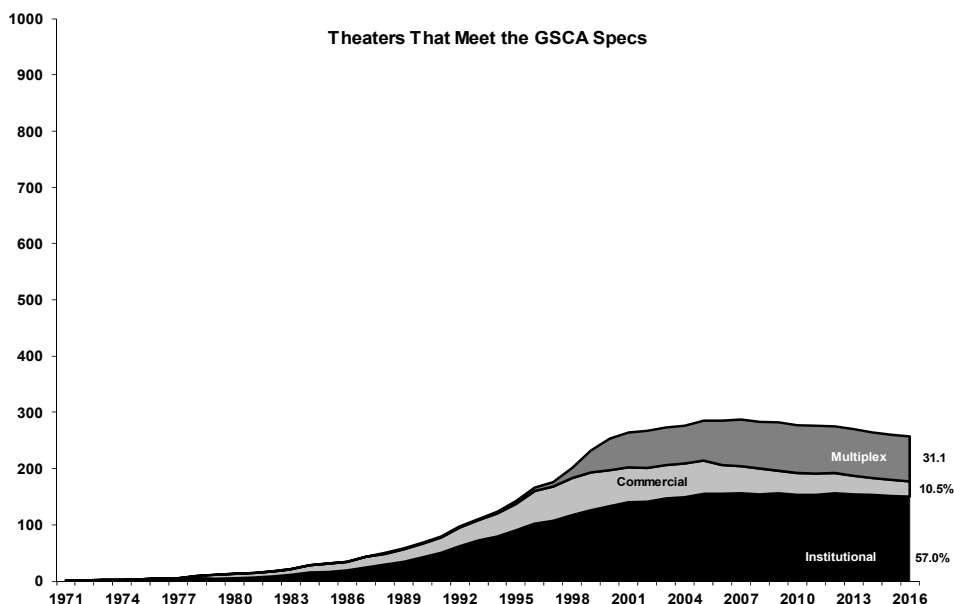
However, the GSCA requirement that all seats be within one screen width of the screen introduces uncertainty in our count, since Imax's data did not include the distance from the screen to the last row of seats. Since 2008, *LF Examiner* has measured the screen and seating dimensions of 124 theaters, including 89 multiplex screens, using a precise laser device. Some IMAX multiplex screens meet the GSCA spec, usually because they were built specifically as IMAX GT or SR film theaters. However, very few retrofitted former 35mm theaters or new digital IMAX theaters do. Even if their screens are large enough, the auditoriums are often too deep to meet the GSCA's criteria. We therefore presume, unless we have press reports or other information to suggest otherwise, that new IMAX multiplex screens do *not* meet the seating criterion of the GSCA spec.

Although the vast majority (93%) of IMAX multiplex theaters fall into this category, we include them in our overall count primarily because they occasionally show the original GS documentaries films released by Imax with co-production partners like **Warner Bros. Pictures** and **Walt Disney Studios**, and because a handful of smaller chains with IMAX theaters occasionally book GS films from independent producers.

We do not count the premium large-format (PLF) theaters that many theater chains have introduced in the last few years, because they never show original GS films.

As noted in the main article, there are about 120 fulldome theaters worldwide that meet the GSCA spec that we have never listed, because they never used a GS film format and have not shown GS films. However, since many films are now being distributed in fulldome formats, *LF Examiner* is considering whether to include them in our database and in future theater reports. Your views on this topic are welcomed.

Past years' totals in this report may not agree with those in previous reports because we are constantly updating our database as we learn of theaters that opened or closed in previous periods.



Imax's Scorecard

The following **non-multiplex theaters** have converted to or added a digital projection system to a booth that once had a giant-screen film projector. Unlike the rest of this report, which only counts theaters opened by Dec. 31, 2016, this table lists some theaters that have opened, or will open, in 2017 or beyond.

Wins (IMAX film to first-gen IMAX digital)

1. Suzhou Culture & Arts Centre, China	2010
2. Virginia Air and Space Center, Hampton	2010
3. Challenger Learning Center, FL	2010
4. Denver Museum of Nature and Science, CO	2010
5. Clark Planetarium, UT	2010
6. World Golf Hall of Fame, FL	2011
7. Marbles Kids Museum, NC	2011
8. Pacific Science Center, WA (PACCAR Theater) ¹	2011
9. Xi'an Da Ming Palace, China	2012
10. Esquire IMAX Theatre, CA	2012
11. Jordan's Furniture, Natick, MA	2012
12. British Film Institute, London ^{1,4}	2012
13. Museum of Marine Science & Technology, Taipei	2012
14. Tropicana Casino And Resort, NJ	2013
15. Glasgow Science Center, UK	2013
16. LG IMAX Theatre Sydney, Australia (closed) ^{1,6}	2013
17. Navy Pier IMAX Theatre, IL ^{1,3}	2013
18. National Media Museum, UK	2015
19. Indiana State Museum, IN	2016
20. Cinépolis IMAX Toluca Centro	2016

Wins (IMAX film to IMAX laser system)

21. Pacific Science Center, WA (Boeing Theater)	2015
22. Smithsonian Udvar-Hazy, VA	2015
23. Melbourne Museum, Australia	2015
24. Jordan's Furniture, Reading, MA	2015
25. Telus World of Science Edmonton, AB	2015
26. Tennessee Aquarium, Chattanooga	2016
27. Science North, Sudbury, Canada	2016
28. Auto and Technik Museum, Sinsheim, Germany	2016
29. Smithsonian Air and Space, DC	2016
30. IMAX Victoria, Canada	2016
31. Branson IMAX, MO	2016
32. Kinemax, Futuroscope, France	2016
33. Bullock Texas State History Museum, TX	2016
34. Montreal Science Center, Canada	2017
35. Scientific Center of Kuwait	2017

Wins (IMAX digital to IMAX laser system)

35. CineStar Event Cinema, Germany	2015
36. Liaoning Science & Technology Museum, China	2016
37. Museum of Discovery and Science, FL	2016
38. Papalote Children's Museum Monterrey	2017
Wins (Signed for laser system, not installed yet)	
39. Smithsonian Natural History Museum, DC	2017

Losses (IMAX film to non-IMAX digital)

1. Swiss Transport Museum, Lucerne ²	2008
2. Moody Gardens, TX ^{2,5}	2009
3. Science Museum, Osaka ³	2009
4. 63 City, South Korea ² (closed)	2010
5. Dreamworld, Australia	2011
6. Hastings Museum, NE	2011
7. Millennium Point Cinema, UK (closed)	2011
8. Taipei Astronomical Museum, Taiwan ¹	2011
9. Houston Museum of Natural Science, TX	2012
10. Evergreen Aviation Museum, OR	2012
11. Cradle of Aviation Museum, NY ^{2,3}	2012
12. Putnam Museum of History and Natural Science, IA	2012
13. Kansas Cosmospheer and Space Center ³	2012
14. Milwaukee Public Museum, WI ^{2,3}	2013
15. Air Force Museum Theater, OH	2013
16. Polynesian Cultural Center, HI	2013
17. Oregon Museum of Science and Industry	2013
18. Malecon 2000, Ecuador	2013
19. Kentucky Science Center, Louisville	2014
20. Memphis Pink Palace Museum, TN	2014
21. Science Museum of Virginia, Richmond ³	2014
22. Yellowstone Giant Screen Theatre, MT	2014
23. Virginia Aquarium and Marine Science Center	2014
24. Whitaker Center for Science and the Arts, PA	2014
25. Entergy Giant Screen Theatre, LA	2015
26. National Infantry Museum, GA ⁵	2015
27. National Science and Technology Museum, Taiwan	2015
28. National Museum of Natural Science, Taiwan ³	2015
29. Saitama City Science Theatre, Japan ¹	2015
30. Science Centre Singapore ³	2015
31. Naval Aviation Museum ⁵	2016
32. The Henry Ford, MI ²	2016
33. Canadian Museum of History, QC ^{2,5}	2016
34. New Mexico Museum of Space History ³	2016
35. Great Lakes Science Center ^{3,5}	2016
36. Arizona Science Center ⁵	2016
37. Tokorozawa Aviation Museum	2016
38. Fernbank Museum of Natural History, GA ⁵	2017
39. Museum of Science and Industry, Chicago ^{3,5}	2017
40. Liberty Science Center, NJ ²	2017
41. Carnegie Science Center ⁷	2017

Losses (non-IMAX film to non-IMAX digital, meet GSCA specs)

42. Saitama Space Science Hall, Japan ³	2008
43. Zion Canyon Giant Screen Theater, UT (closed)	2008
44. Rheged Centre, Penrith, UK	2009
45. Shonandai Cultural Center, Japan ³	2009
46. Mie Adventure Park, Japan ³	2009
47. National Planetarium, Malaysia ³	2009
48. Central Texas College, Killeen ³	2010
49. Sanuki Children's Center, Japan ³	2010
50. National Science Museum, South Korea ³	2010
51. Mayborn Planetarium, TX ²	2010
52. Yamanashi Science Museum ³	2010
53. COSI Columbus, OH	2011
54. Louisiana Art and Science Museum, Baton Rouge ³	2011
55. New Mexico Museum of Natural History and Science	2011
56. Telus Spark, Calgary, Canada ³	2012
57. Koriyama Municipal Science Museum, Japan ³	2012
58. Tamarukoto Science Center, Japan ³	2012
59. Washington Pavilion of Arts and Sciences, SD ³	2012
60. Kansas City Union Station, MO	2013
61. Mukai Chiaki Children's Science Museum, Japan ³	2013
62. Pushpa Gujral Science City ⁷	2013
63. Kurashiki Science Center, Japan ³	2014
64. Tondabayashi Subaru Hall, Japan ³	2014
65. Davis Planetarium, MS ²	2014
66. Bhasani Novo Theatre, Bangladesh ³	2014
67. Fukui Children's Science Center, Japan ³	2014
68. Eugenides Planetarium, Greece ³	2015
69. Clay Center for the Arts and Sciences, WV ³	2015
70. Vulcania, France	2015
71. Maloka Interactive Science Center ³	2016

1. Kept IMAX film projector, added IMAX digital
2. Kept IMAX film projector, added non-IMAX digital, dropped IMAX brand
3. Tilted dome
4. Will get IMAX laser system
5. Non-IMAX laser
6. Closed, will reopen with laser in 2019.
7. Converting from dome to flat screen.

New Theaters in 2016

All of the theaters below are 3D-capable IMAX digital theaters with flat screens. Four that are set **bold** are laser systems.

City	TheaterName	Country	City	TheaterName	Country	City	TheaterName	Country
Luanda	ZAP Cinemas & IMAX	ANGOLA	Linfen	Linfen Xinbahui Wanda & IMAX	CHINA	Yichun	Yichun Wanda & IMAX	CHINA
Posadas	IMAX Parque del Conocimiento	ARGENTINA	Liuzhou	Liuzhou Luan Wanda & IMAX	CHINA	Yingkou	Yingkou Bayuquan Wanda & IMAX	CHINA
Passing	Hollywood Megaplex Plus City & IMAX	AUSTRIA	Liyang	Liyang Shangcheng Omniqoi & IMAX	CHINA	Yiwu	Yiwu Wanda & IMAX	CHINA
Plavdiv	Kino Arena IMAX Plavdiv	BULGARIA	Lu'an	Lu'an Wanda & IMAX	CHINA	Zhangzhou	Zhangzhou Taishenggu Wanda & IMAX	CHINA
Anqing	Anqing InJoy Bestar & IMAX	CHINA	Meizhou	Meizhou Wanda & IMAX	CHINA	Zhenjiang	Zhenjiang Wanda & IMAX	CHINA
Beijing	Beijing Huafang Wanda & IMAX	CHINA	Mudanjiang	Mudanjiang Wanda & IMAX	CHINA	Zhengzhou	Zhengzhou Gaoxin CGV & IMAX	CHINA
Beijing	Beijing Hexie Hengye & IMAX	CHINA	Nanchang	Nanchang Bestar & IMAX	CHINA	Zhengzhou	Zhengzhou Huji Wanda & IMAX	CHINA
Beijing	Beijing Daxing Longfor SFC & IMAX	CHINA	Nanchang	Nanchang Mall Wanda & IMAX	CHINA	Zhongshan	Zhongshan Xiaolan Stellar & IMAX	CHINA
Binzhou	Binzhou Wanda & IMAX	CHINA	Nanjing	Nanjing Changfa Omniqoi & IMAX	CHINA	Ziyang	Ziyang Wanda & IMAX	CHINA
Bozhou	Bozhou Wanda & IMAX	CHINA	Ningbo	Ningbo Shanqing Outlet Stellar & IMAX	CHINA	Aarhus	CinemaxX Aarhus & IMAX	DENMARK
Changchun	Changchun Qianjin Street Liwang Wanda & IMAX	CHINA	Qingdao	Qingdao Lion Mall SFC & IMAX	CHINA	Quito	Superpines 6 de Diciembre & IMAX	ECUADOR
Changde	Changde Wanda & IMAX	CHINA	Qingdao	Qingdao Capital Mall New City Center CGV & IMAX	CHINA	Paris	La Valette & IMAX	FRANCE
Changsha	Changsha Meixi Lake BCG Wanda & IMAX	CHINA	Qinyuan	Qinyuan Wanda & IMAX	CHINA	Paris	Pathe La Valette & IMAX	FRANCE
Changsha	Changsha Meixi Lake CGV & IMAX	CHINA	Qianzhou	Qianzhou Anxi Powerlong Jinji & IMAX	CHINA	Noida	PVR Superplex & IMAX	INDIA
Changzhou	Changzhou Global Harbor SFC & IMAX	CHINA	Sanmenxia	Sanmenxia Wanda & IMAX	CHINA	Pune	Cinepolis Westend Mall Sunshish Pune & IMAX	INDIA
Changzhou	Changzhou Jintan InJoy Bestar & IMAX	CHINA	Sanming	Sanming Wanda & IMAX	CHINA	Be'er Sheva	Yes Planet Be'er Sheva & IMAX	ISRAEL
Chaoyang	Chaoyang Wanda & IMAX	CHINA	Shanghai	Shanghai Hongqiao Longkong & IMAX	CHINA	Minato-Ku	T-Joy Prince Shinagawa & IMAX	JAPAN
Chengdu	Chengdu Joy City Stellar & IMAX	CHINA	Shanghai	Shanghai Fengxian Powerlong Hengdian & IMAX	CHINA	Nagoya	AEON Cinema Odaka & IMAX	JAPAN
Chengdu	Chengdu Shudu Wanda & IMAX	CHINA	Shanghai	Shanghai Qibao Yanke CGV & IMAX	CHINA	Osaka	TOHO Cinemas Namba & IMAX	JAPAN
Chongqing	Chongqing Daping Wanda & IMAX	CHINA	Shanghai	Shanghai Daring Aurora & IMAX	CHINA	Sendai	TOHO Cinemas Sendai & IMAX	JAPAN
Chongqing	Chongqing Yongchuan Wanda & IMAX	CHINA	Shanghai	Shanghai Yaohan SFC Bailian & IMAX	CHINA	Yokohama	TOHO Cinemas LaPorte Yokohama & IMAX	JAPAN
Chongqing	Chongqing IMIX Park Wanda & IMAX	CHINA	Shanghai	Shanghai Bingu SFC & IMAX	CHINA	Yokohama	Yokohama Burg13 & IMAX	JAPAN
Chongqing	Chongqing Jiangbeizui Cross Cinema & IMAX	CHINA	Shanghai	Shanghai Jiufeng Bestar & IMAX	CHINA	Astana	Kinopark 8 Saryarka & IMAX	KAZAKHSTAN
Cixi	Cixi Poly China Film Stellar & IMAX	CHINA	Shanghai	Shanghai Baoshan Stellar & IMAX	CHINA	Nairobi	Century Cinemas Garden City Mall & IMAX	KENYA
Danyang	Danyang Babaiban Omniqoi & IMAX	CHINA	Shangrao	Shangrao Wanda & IMAX	CHINA	Bishkek	Cosmopark IMAX	Kyrgyzstan
Deyang	Deyang Wanda & IMAX	CHINA	Shantou	Shantou Cinecity & IMAX	CHINA	Beirut	VOX Cinemas & IMAX	LEBANON
Dongguan	Dongguan Humen Wanda & IMAX	CHINA	Shaoying	Shaoying Shengyu Wanda & IMAX	CHINA	Kuala Lumpur	TCV Sunway Velocity & IMAX	MALAYSIA
Foshan	Foshan Yuexiu Xinghui Wanda & IMAX	CHINA	Shenzhen	Shenzhen Henggang Wan Zhong & IMAX	CHINA	Kuching	TCV Vivacity Mall Kuching & IMAX	MALAYSIA
Foshan	Foshan Sanshui Wanda & IMAX	CHINA	Shenzhen	Shenzhen Kingkey Stellar & IMAX	CHINA	Ulaanbaatar	Urgoo Cinemas & IMAX	MONGOLIA
Fuzhou	Fuzhou Great Town Omniqoi & IMAX	CHINA	Shenzhen	Shenzhen InJoy OSGH & IMAX	CHINA	Lagos	Filmhouse & IMAX	NIGERIA
Guangzhou	Guangzhou R&F Jinji & IMAX	CHINA	Shenzhen	Shenzhen Centerville MH Mall OSGH & IMAX	CHINA	Muscat	VOX Cinemas City Centre Qurum & IMAX	OMAN
Guangzhou	Guangzhou IGC Palace & IMAX	CHINA	Shenzhen	Shenzhen 9 Square Lumiere & IMAX	CHINA	Panama City	Panama City Alapalaza & IMAX	PANAMA
Guangzhou	Guangzhou Panyu Shawan Jinji & IMAX	CHINA	Shishi	Shishi Shimao Wanda & IMAX	CHINA	Doha	Novo Mall of Qatar & IMAX	QATAR
Guangzhou	Guangzhou Grandview Mall Flying & IMAX	CHINA	Shiyan	Shiyan Wanda & IMAX	CHINA	Timisoara	Cinema City IMAX Shopping City	ROMANIA
Guangzhou	Guangzhou Sun City Jinji & IMAX	CHINA	Sping	Sping Wanda & IMAX	CHINA	Irkutsk	Barguzin & IMAX	RUSSIA
Haikou	Haikou Starbay Jinji & IMAX	CHINA	Suning	Suning Wanda & IMAX	CHINA	Moscow	Formula Kino Kutuzovskiy & IMAX	RUSSIA
Haikou	Haikou HNA MOVIA Wanda & IMAX	CHINA	Suzhou	Suzhou Wanda & IMAX	CHINA	Moscow	Formula Kino Polizovskiy & IMAX	RUSSIA
Haikou	Haikou Cimen Zone & IMAX	CHINA	Suzhou	Suzhou AEON Jinji & IMAX	CHINA	Tula	Cinema Park Maxi Tula & IMAX	RUSSIA
Haikou	Haikou Bestar & IMAX	CHINA	Taizhou	Taizhou Jingke Wanda & IMAX	CHINA	Singapore	Shaw Theatres Waterway Point & IMAX	SINGAPORE
Haikou	Haikou Xiyang Wanda & IMAX	CHINA	Taizhou	Taizhou Zhongsheng Wanda & IMAX	CHINA	Johannesburg	Ster-Kinekor Mall of Africa & IMAX	SOUTH AFRICA
Hangzhou	Hangzhou Binjiang Cinyo & IMAX	CHINA	Tianjin	Tianjin Dagang Jinji & IMAX	CHINA	Gyeonggi-Do	CGV Uijeongbu & IMAX	SOUTH KOREA
Hanzhou	Hangzhou Xilian Jinji & IMAX	CHINA	Tongliao	Tongliao Wanda & IMAX	CHINA	Taoyuan City	Taoyuan Taimall Miramar & IMAX	TAIWAN
Harbin	Harbin Exhibition Center CGV & IMAX	CHINA	Urumqi	Urumqi Wanda & IMAX	CHINA	Dubai	Novo Cinemas Festival City & IMAX	UAE
Hefei	Hefei Wanda Mall & IMAX	CHINA	Wenzhou	Wenzhou MixC Lumiere & IMAX	CHINA	Dnipro	Multiplex & IMAX	UKRAINE
Huabei	Hefei Yaohai Wanda & IMAX	CHINA	Wuhan	Wuhan Wanda & IMAX	CHINA	Swindon	Empire Swindon & IMAX	U.K.
Huabei	Huabei Jinji & IMAX	CHINA	Wuhan	Wuhan Bona Int'l & IMAX	CHINA	Kansas City	AMC Legends 14 & IMAX	USA
Huzhou	Huzhou Wanda & IMAX	CHINA	Wuhu	Wuhu Huajiang Wanda & IMAX	CHINA	Las Vegas	AMC Town Square 18 & IMAX	USA
Jianyang	Jianyang Xuhai Wanda & IMAX	CHINA	Xiamen	Xiamen Shimao Wanda & IMAX	CHINA	Manhattan	Carmike Town Center 13 & IMAX	USA
Jinan	Jinan Gaoxin Wanda & IMAX	CHINA	Xi'an	Xi'an Laochenggen Cando & IMAX	CHINA	Miami	Carnival Vista IMAX Theatre	USA
Jingmen	Jingmen Wanda & IMAX	CHINA	Xiangtan	Xiangtan Wanda & IMAX	CHINA	Newark	AMC Newark 12 & IMAX	USA
Jixi	Jixi Wanda & IMAX	CHINA	Xiangtan	Xiangtan Hengdian & IMAX	CHINA	Oak Brook	AMC Oakbrook 12 & IMAX	USA
Kunming	Kunming Chenggong CGV & IMAX	CHINA	Xuzhou	Xuzhou Tongshan Wanda & IMAX	CHINA	Riverbank	Galaxy Riverbank & IMAX	USA
Kunming	Kunming Parking Dadu LLC & IMAX	CHINA	Yangzhou	Yangzhou Sifang & IMAX	CHINA	San Juan	Montehedra Cinemas & IMAX	USA
Leshan	Leshan Wanda & IMAX	CHINA	Yantai	Yantai Wanda & IMAX	CHINA	Xining	Xining Hailu Wanda & IMAX	CHINA
Lianyungang	Lianyungang Wanda & IMAX	CHINA	Yantai	Yantai Changjiang Road CGV & IMAX	CHINA	Ho Chi Minh	CGV Liberty Hoang Van Thu & IMAX	VIETNAM



All films are 3D unless noted, underlined titles are 2D
 * New listing.
 Updated information is printed in **bold**.
 Unless noted, all films run about 40 minutes.
 Some titles with limited release territories are not listed.

The Fate of the Furious

Universal Pictures; distributor: Universal Pictures; director: F. Gary Gray. Cast: Charlize Theron, Dwayne Johnson, Scott Eastwood, Jason Statham, Vin Diesel, Kurt Russell, Helen Mirren, Jordana Brewster. 2D. DMR. Release: April 14.

Amazon Adventure

SK Films; distributor: SK Films; director: Mike Slee; producers: Jonathan Barker, Wendy MacKeigan, Mike Slee, Yuri Sanada; DP: Gerry Vasbenter, Richard Kirby; script: Wendy MacKeigan, Carl Knutson; score: Antonio Pinto; executive producers: Jonathan Barker, Sean B. Carroll. Cast: Calum Finlay, Ed Birch, Bege Muniz, William Postlethwaite, Robert Daws. Release: April.
 — Principal photography is complete. Post-production is under way.

Guardians of the Galaxy, Vol. 2

Walt Disney Pictures; distributor: Walt Disney Pictures; director: James Gunn. Cast: Chris Pratt, Karen Gillan, Zoe Saldana, Sylvester Stallone, Vin Diesel, Bradley Cooper, Kurt Russell. DMR. Release: May 5.

Pirates of the Caribbean: Dead Men Tell No Tales

Walt Disney Pictures; distributor: Walt Disney Pictures; directors: Joachim Ronning, Espen Sandberg. Cast: Johnny Depp, Orlando Bloom, Javier Bardem, Kaya Scodelario, Brenton Thwaites, Geoffrey Rush, Paul McCartney. 2D. DMR. Release: May 26.

Full Charge: The Power of Innovation (wt)

N3D Land Films; distributor: nWave Pictures; directors: Pascal Vuong, Ronan Chapalain; producers: Catherine Vuong, Pascal Vuong; script: Pascal Vuong; DP: Vern Nobles; score: Franck Marchal; executive producers: Franck Savorgnan, Christian Fry. Cast: Bertrand Piccard, André Borschberg. Release: May.
 January: 2D and 3D animation started.

Wonder Woman

Warner Bros.; distributor: Warner Bros.; director: Patty Jenkins. Cast: Gal Gadot, Robin Wright, Chris Pine, Connie Nielsen, David Thewlis, Elena Anaya, Lucy Davis. 2D. DMR. Release: June 2.

The Mummy

Universal Pictures; distributor: Universal Pictures; director: Alex Kurtzman. Cast: Tom Cruise, Sofia Boutella, Annabelle Wallis, Russell Crowe, Jake Johnson, Chasty Ballesteros, Courtney B. Vance. DMR. Release: June 9.

Feb '17

Jul '17

LBM
DreamB
GreWall
Earthfl

Logan
Kong
BATB
GITS

FOTF
AmazAd

GOTG2
POTC
FullCh

WW
Mummy
TTLK

SMH
Dunki
Cuba

Inhum
Solut
LNM
Trolley

BR49
Geost
EarthSt
HidPac

Thor
JL
Record

Transformers: The Last Knight

Paramount Pictures; distributor: Paramount Pictures; director: Michael Bay. Cast: Mark Wahlberg, Anthony Hopkins, John Goodman, Laura Haddock, Isabela Moner, Stanley Tucci, Josh Duhamel, John Turturro. DMR. Release: June 23.

Spider-Man: Homecoming

Marvel Studios; distributor: Sony Pictures Entertainment; director: Jon Watts. Cast: Tom Holland, Donald Glover, Marisa Tomei, Robert Downey Jr., Jon Favreau, Michael Keaton, Zendaya. DMR. Release: July 7.

Dunkirk

Warner Bros.; distributor: Warner Bros.; director: Christopher Nolan. Cast: Tom Hardy, Cillian Murphy, Harry Styles, Mark Rylance, Kenneth Branagh, James D'Arcy. 2D. Release: July 21. DMR.

Cuba

Golden Gate 3D; distributor: Giant Screen Films; director, producer: Peter Chang. Release: Summer.

Inhumans

Imax Corporation, ABC Studios; distributor: ABC; director: Roel Reine. 2D. DMR. Release: Sept. 1.

- First two episodes of TV series will run exclusively in IMAX theaters before broadcast premiere later in September.
- Filmed entirely with IMAX digital cameras.

The Solutrean

Sony Pictures Entertainment; distributor: Sony Pictures Entertainment; director: Albert Hughes. Cast: Kodi Smit-McPhee, Leonor Varela, Natassia Malthe, Priya Rajaratnam, Jens Hultén, Mercedes de la Zerda. DMR. Release: Sept. 15.

The Lego Ninjago Movie

Warner Bros.; distributor: Warner Bros.; directors: Charlie Bean, Paul Fisher, Bob Logan. Cast: voices of Olivia Munn, Dave Franco, Jackie Chan, Justin Theroux, Michael Peña, Zach Woods, Fred Armisen. DMR. Release: Sept. 22.

Blade Runner 2049

Warner Bros.; distributor: Warner Bros.; director: Denis Villeneuve. Cast: Ryan Gosling, Jared Leto, Harrison Ford, Mackenzie Davis, Robin Wright, Dave Bautista. DMR. Release: Oct. 6.

Geostorm

Warner Bros.; distributor: Warner Bros.; director: Dean Devlin. Cast: Kathryn Winnick, Gerard Butler, Ed Harris, Jim Sturgess, Abbie Cornish, Andy Garcia. DMR. Release: Oct. 20.

Earth Story (wt)

December Media; distributor: MacGillivray Freeman Films; director: Russell Scott; producers: Stephen Amezdroz, Matt Downey; script: Don Hahn; executive producers: Tony Wright, Stuart Menzies. Release: October.
 — Have filmed in Iceland and will film in Australia in first quarter 2017.

The Trolley

Stephen Low Company; distributor: Stephen Low Company; director: Stephen Low; producer: Pietro Serapiglia. 2D. Release: Fall.

- January: Sound mixing has started.

Thor: Ragnarok

Walt Disney Pictures; distributor: Walt Disney Pictures; director: Taika Waititi. Cast: Chris Hemsworth, Benedict Cumberbatch, Cate Blanchett, Idris Elba, Anthony Hop-

kins, Tom Hiddleston, Mark Ruffalo, Sam Neill. DMR. Release: Nov. 11.

Justice League

Warner Bros.; distributor: Warner Bros.; director: Zack Snyder. Cast: Amy Adams, Ben Affleck, Gal Gadot, Henry Cavill, Jeremy Irons, Diane Lane, Connie Nielsen, J.K. Simmons, Jesse Eisenberg. DMR. Release: Nov. 17.

Star Wars Episode VIII

LucasFilm Ltd.; distributor: Walt Disney Pictures; director: Rian Johnson. Cast: Carrie Fisher, Daisy Ridley, Mark Hamill, Adam Driver, Domhnall Gleeson, Oscar Isaac, Peter Mayhew, Gwendoline Christie, Benicio Del Toro, Warwick Davis, Anthony Daniels, Andy Serkis. DMR. Release: Dec. 15.

Hidden Pacific *

A look at the Pacific Ocean's protected and remote national wildlife refuge islands and marine national monuments. Giant Screen Films, Tandem Stills; distributor: Giant Screen Films; director, producer: Ian Shive. Release: Late 2017.
 — Filmed at the Palmyra and Midway Atolls. Shooting concludes in April.

The Record

AfterglowStudios; distributor: Big & Digital; director: Luke Ployhar; producers: Luke Ployhar, Ashley Jahnke; script: Barry Thorson. Release: late 2017.

Pono: The Secret of Hawaii

Happy Planet Productions; distributor: tba; director, DP, writer: Pierre Hugues Routhier; producers: Richard W. Kroon, Margaret Goode; score: Cody Westheimer; executive producers: Pierre Hugues Routhier, Richard W. Kroon. Cast: "Uncle" Earl Kamakaona. Release: 2017.

Hawaii: Islands of Fire (wt)

Ring of Fire Films, Inc.; distributor: tba; director, DP: Michael Lienau; producers: Jacob Lienau, Michael Lienau; script: Tab Murphy, Paul Quattrocchi, Michael Lienau; executive producer: David Cunningham. Release: early 2018.

Pandas: Return to Nature

Imax Corporation; distributor: Imax Corporation; director: Drew Fellman. Cast: Ben Kilham. Release: early 2018.
 — January: Filming started in Sichuan, China.

Volcanoes: The Fires of Creation

Digital Crossing Productions; distributor: SK Films; director, writer, DP: Michael Dalton-Smith; score: Robert Kroledge; executive producers: Michael Dalton-Smith, Jonathan Barker. Cast: Carsten Peters. Release: early 2018.
 — January: Filmed in the Serengeti.
 — Shooting soon in Vanuatu, Iceland, and Mexico.

Great Barrier Reef 3D (wt)

December Media; distributor: MacGillivray Freeman Films; directors: Stephen Amezdroz, Richard Fitzpatrick; producers: Stephen Amezdroz, Matt Downey; script: Don Hahn; executive producers: Tony Wright, Stuart Menzies. Release: April 2018.

Backyard Wilderness

Archipelago Films, Arise Media; distributor: SK Films; directors, producers: Andrew Young, Susan Todd; script: Susan Todd, Andrew Young, Mose Richards; DP: Andrew Young. Release: Spring 2018.

In Saturn's Rings

SV2 Studios; distributor: BIG & Digital; director, producer, writer, executive producer: Stephen van Vuuren. 2D.

W8

GBR

Avatar
Oceans

AmTrea

SupDog
SeaLov →
RTE →

ono

Hawaii
Pandas Volcan BackWi ITWOTD TrainT
ISR

AncCav

DOC

LSP
MaxPow Soar

Release: Spring 2018 (flat and dome version); fall 2018 (fulldome).

- Rendering is more than half done.
- February: Seeking volunteers to donate render time on their computers.

In the Wake of the Dolphin (wt)

Milbrand Cinema; distributor: tbd; director, producer, DP: Lance Milbrand; editor: Dave Choice; score: Icarus Music. Cast: Kathleen Dudzinski, Eldon Bolton. Release: spring 2018.

- February: Filmed in Roatan and Utila, Honduras.

Train Time (wt)

Stephen Low Company; distributor: Stephen Low Company; director: Stephen Low; producer: Pietro Serapiglia. 2D. Release: Spring 2018.

Ancient Caves (wt)

Oceanic Research Group; distributor: MacGillivray Freeman Film Distribution; director, DP: Jonathan Bird; producers: Jonathan Bird, Art Cohen; script: Jonathan Bird, Art Cohen; score: Bruce Zimmerman; executive producer: Shaun MacGillivray. Cast: Dr. Gina Moseley, Dr. Larry Edwards, Brian Kakuk, Todd Kelly. For 15/70 dome only. Release: mid 2018.

- February: Completed filming at the most extreme location of the film: Devil's Hole, Nevada, a highly protected, remote and dangerous submerged cave beneath the desert of Death Valley.
- Late 2017, early 2018: Filming planned for France, Mexico, Bahamas.

Avatar 2

Lightstorm Entertainment; distributor: Twentieth Century Fox; director: James Cameron. Cast: Zoe Saldana, Sigourney Weaver, Sam Worthington, Stephen Lan. Release: Dec. 21, 2018. DMR.

Oceans: The Blue Planet

BBC Earth, Alucia Productions; distributor: BBC Earth, Giant Screen Films. Release: December 2018.

December: Shot in Antarctica.

Dinosaurs of China (wt)

Saint Thomas Productions; distributor: K2 Communications. Narrator: James Faulkner. 2D. Release: 2018.

Lightspeed Pioneers

No Final Frontier Productions, Mind's Eye Creative, Wonder Mill Cosmos; distributor: BIG & Digital (flat-screen), Evans & Sutherland (fulldome); director, producer, writer: Lee Fanning. 2D. Release: 2018.

Maximum Power

Masters Digital, 144 Productions; distributor: tba; director: Daniel Stewart; producers: Daniel Stewart, Tim Archer;

executive producer: Domingo Vergoossen. Release: 2018.

Soar

RPG Productions, Soaring the West, Inc.; distributor: tba; director: Matthew Murray; producers: Jennifer Casey, Rick Gordon; DP: Brandon Carlson; executive producers: Jennifer Casey, Rick Gordon. Release: 2018.

America's Treasures (wt)

MacGillivray Freeman Films; distributor: MacGillivray Freeman Films; director: Greg MacGillivray; producer: Shaun MacGillivray; script: Stephen Judson; DP: Brad Ohlund; score: Steve Wood; cast: Aloe Blacc. Release: February 2018.

- February: Filmed in New Orleans.
- April-May: Filming in Miami, Dallas, New York, Detroit, Chicago.

Superpower Dogs (wt)

Cosmic Picture; distributor: tbd; director: Daniel Ferguson; producers: Taran Davies, George Duffield, Daniel Ferguson, Dominic Cunningham-Reid; script: Daniel Ferguson; DP: Reed Smoot. Release: spring 2019.

- January, February: Tested doggie-vision camera rigs in

Los Angeles, filmed in Miami with Florida Task Force 1 K9 unit.

- April: Will film deployment simulation in Disaster City, TX (College Station), with Texas TF-1 K9 units.

Return to Everest (wt)

MacGillivray Freeman Films; distributor: MacGillivray Freeman Films; director: Greg MacGillivray; producer: Shaun MacGillivray; script: Stephen Judson; DPs: Brad Ohlund, Michael Brown, Greg MacGillivray, Jack Tankard, Ron Goodman; score: Steve Wood. Release: 2019.

Sea of Love 3D (wt)

Achtel Pty. Ltd., House of 3D; distributor: tba; director: Pawel Achtel; producers: Pawel Achtel, Stuart Monksfield; DP: Pawel Achtel; script: Jan Aldenhoven. Release: 2019.

- Production suspended until 2018.



Steadicam operator Scott Hoffman, Maddie the dog and her human, VFX designer and producer Alan Markowitz, and VFX supervisor Michael Roderick running camera tests for "doggie vision" for SuperPower Dogs.

(from *VR* on page 1)

Who are the early adopters? No surprise here. The majority have been gamers. According to *Fortune*, “VR game users reportedly engage in 40 sessions a month on average. But such hard-core fans aside, most people lack a compelling reason to shell out for the gear.”

How far away is consumer mass adoption of VR? **Forrester Research** says at least five years. One of their recent studies reported that almost 50% of US adults “currently don’t see a daily use for it in their lives,” but this is to be expected with a new and emerging medium.

There seems to be no doubt that the hype around VR has surpassed marketplace realities. Referring to the “Hype Cycle” invented by the IT company **Gartner Inc.**, some analysts think VR is currently in the “Trough of Disillusionment” that follows the “Peak of Inflated Expectations,” the first two of five distinct stages through which new technologies typically pass. Yet, a corollary to the Hype Cycle is Amara’s law, which says, “We tend to overestimate the effect of a technology in the short run and underestimate the effect in the long run.” That feels like an accurate portrayal of VR.

Back to the threat versus opportunity debate for immersive theaters.

The history of immersion

Let’s go back to the dawn of the large-format film and theater industry. When the business was launched by **Imax Corporation** in the 1970s, IMAX flat and dome theaters introduced huge screens that immersed the viewer in high-definition images and surround sound. There was no other medium as immersive as IMAX or OMNIMAX. In the early days of large format, conventional cinema was actually going in the other direction — extreme multiplexing caused conventional screens to get quite a bit smaller. Although there was no interactivity with the content, the large-format theater experience was considered a uniquely “active” form of cinema. Imax’s use of stadium seating brought viewers closer than ever to the screen, and viewers had to move their heads to take in the whole picture. With crisp, giant images that extended well beyond one’s periph-

eral vision, and powerful surround sound, Imax pioneered the truly immersive theater experience. And it flourished, thanks to the content specially designed for these theaters, from a growing community of producers.

For fulldome theaters, the situation is a bit different. Introduced at the start of this millennium, the 180-degree dome screen instantly became the norm (although with widely varying diameters, tilt angles, and seating configurations), owing to the fact that most fulldome theaters were retrofits of analog planetariums built many years or decades earlier. Projected images filled the entire hemisphere, compared to GS film domes which are 165-degree screens, on which the projected image was designed to fill only about 135 degrees front to back. So fulldome theaters, especially the larger ones, are more immersive than giant film domes. (Aside: there are more GS-sized fulldome theaters now — more than 120 — than all the giant film domes in the world — just over 100. Those 120 do not include film domes that also have added or switched to fulldome systems.) And to the extent that fulldome theaters have developed shows using high-resolution, real-time, computer-generated images of the universe, driven by a live presenter at the console, an element of interactivity was introduced to this new form of cinema, enhancing the immersion.

The situation today

Back to 2017. The spectacle or experience of a large screen that envelops the viewer in an institutional theater is obviously not new. To some extent, it has been replicated by IMAX and other premium large format theaters in commercial cinemas. Theme parks and other attractions have immersive theaters, too. So the museum-based giant-screen and large fulldome theaters’ unique selling point isn’t as strong as it once was. And in today’s media and attractions environment, the GS/FD experience is now considered a passive cinema experience. My firm, **Blaze Cineworks**, has worked with several museums that are beginning to plan for the reinvention of their giant domes. In one case, community leaders urged the museum to explore moving away from offering

only the passive film experience, and adding experiences that are more interactive. They see the giant-screen theater as a potential hub for all sorts of new media, including VR. I suspect these views are shared by community leaders in cities with museum giant screens around the world.

Does this mean VR is the answer for giant-screen and large fulldome theaters that want to position themselves for relevance and growth in the next ten-plus years? There might be some convergence with immersive theaters, but for an in-theater experience with 300+ seats, it’s not obvious yet how this will be executed, technically and economically.

Atlanta-based **Pulseworks**, whose clients include several leading museums, has incorporated VR in its motion-based entertainment business, with a new four-seat “VR Transporter” attraction. The first installation was at the **National Museum of the United States Air Force** in Dayton, OH. This system is scalable to many more seats, perhaps even hundreds installed in a large theater, although the capital cost would be considerable and the feasibility of that level of investment would have to be examined.

Several other museums with GS theatres have added VR attractions to their lobbies. **Omniversum**, in the Hague, Netherlands, has a three-seat VR attraction with Oculus Rift headsets and “butt kickers,” simulating a trip into space. Last November, Paris’ **La Géode** added an ambitious, multi-zone set of VR attractions in its theater lobby. In a 50-minute experience, nine guests at a time circulate through three zones of VR entertainment (soon to be four zones), including 360 videos, VR gaming, a VR interactive living room, and starting in April, a VR “ride” consisting of a nine-seat dynamic platform with wind effects.

A few fulldome theaters have begun to experiment with projecting 360-degree video content, repurposed from VR/360 video productions, including the 8K planetarium at the **Houston Museum of Natural Science**. The laser dome theater at the **Pacific Science Center** was retrofitted temporarily with a fulldome system for the SIFFX track of the 2016 Seattle International Film Festival. A reel of 360-video

content was projected onto the 80-foot (24-meter) dome screen.

One of the current obstacles to location-based VR is throughput: how to get enough guests through the experience in a way that is operationally and economically feasible. For now, a tempting experiment is to use large theater spaces for their capacity, not their large screen. Each audience member could be outfitted with a VR headset, and a live speaker could be the narrator or guide through a VR documentary that is streamed concurrently at each headset. The program could involve interaction between the speaker and the audience. With their historic strength in live, presenter-led, astronomy shows using real-time CGI of the universe, full-dome theaters are likely candidates for this approach. But it doesn't have to be about space or astronomy. Any subject that lends itself to exploring a place that audience members couldn't otherwise go should be a good candidate.

The fixed seats in immersive theaters may be an obstacle to fully embracing VR in the longer term. Perhaps the theater space has to be reinvented without seats, or maybe a big chunk of the seating capacity needs to be removed (or removable) so that a room-scale VR experience can be offered.

Some say that for VR to become mainstream outside of the gaming sector, the VR-content-consuming public will have to settle on how interactive VR as a medium will become. In other words, just because VR content developers can provide agency and interactivity in the experience, do we have to give it to the user? Do they even want it? And if they do, how much do they want it?

Producer **Paul Mowbray** of **NSC Creative** believes that "there are many new genres to be created in between passive movies and gaming, and probably outside of these two current bookends, also. It's

this new middle ground that interests me the most."

Location-based VR

The ultimate in location-based, room-scale, group-oriented VR is found in experiences like those offered in commercial attractions by **The VOID** in New York and Dubai, and **Zero Latency** in Melbourne, Australia. The VOID concept combines VR, augmented reality (AR), props, and 4D effects. An educational application of The VOID concept is tempting to imagine. It can be group-oriented, where tasks would be designed



Omniversum in the Netherlands is experimenting with VR.

for collaboration and learning about the subject. Guests would walk through a designed space, which could be themed to leverage a film subject. For instance, for a film on ancient Rome, imagine a VR/AR experience where guests travel back in time to 100 CE to walk through the Hypogeum, the maze-like tunnels under Rome's Colosseum, as a complementary experience to a GS film on Rome. This could be a major traveling exhibit, or a museum could create its own permanent VR attraction in a dedicated space that is controlled, re-skinned, and reprogrammed for various subjects by the museum's exhibit team. Adding a game play element, or "gamifying" the educational experience, is likely going to be pursued if this concept takes hold.

Using VR today

How can GS and FD content creators exploit VR today? Some have already retooled for VR, conceiving and initiating projects that concurrently yield a fulldome or giant-screen film feature plus a VR experience. Others are using VR platforms as an ancillary distribution outlet for their productions. Fulldome producers NSC Creative and **Mirage3D** have begun to sell VR versions of their native, all-CGI fulldome productions. Producers and distributors looking for VR to reveal a path to monetization might find some of the early results encouraging.

At the recent **IMERSA Summit** in Denver, NSC Creative reported sales results to date on the STEAM platform, for various VR content, including one of their shows. NSC's **We Are Stars** was the first ever cross-platform dome-plus-VR project, and its VR show has sold over 700 units at \$9.99 each in its first two months. By comparison, **Twentieth Century Fox's The Martian VR Experience** sold over 1000 units at \$9.99 in about three months. **The Apollo 11 VR Experience** (standalone VR content from **Immersive VR Education Ltd.**) has sold 26,000 units at \$9.99 in about 10 months. It's a start.

GS and FD producers and distributors can begin using VR for marketing purposes, creating short VR/360-video clips to help promote their theatrical features. The "VR for PR" motive may not generate a directly measurable monetary ROI, but the buzz could boost a new GS or FD film's launch. I know of a few GS producers that have built this into their film development plans.

Other options

Until institutional operators can find a good use of VR inside their immersive theaters, they can dip a toe in the VR pool in other ways, and monetize with incre-

(see VR on page 16)

(from *VR* on page 15)

mental admission charges. For instance, VR lounges could be set up in museum lobbies, with a number of headsets and swivel chairs. Content would be either tied directly to a film playing in the museum's theater or it could be on a broader topic, not tied to a specific film, that would have a longer shelf life. Leveraging their relationships with theaters, GS and FD distributors are in a good position to acquire (or produce) the content. Some of my institutional clients have wondered whether, if suitable "edu-tainment" content is produced for it, the new IMAX VR

Experience Center, the first of which opened recently in Los Angeles, could be rolled out to museums and science centers. Smaller scale but appealing uses include multi-sensory devices that incorporate VR, such as the Birdly flight-simulator motion platform promoted by **Giant Screen Films**.

VR is still a long way from becoming mainstream. It probably won't be a threat to immersive theaters and their content providers at least until it becomes a social experience, one that a group of people can enjoy together, out-of-home. That day will come. We don't know yet what it will look

like. My view is the best defense is offense: the time is now for theaters and producers to jump in and do something. Test. Experiment. Learn. Out of that could spring an out-of-home, truly social VR experience that could launch the GS and FD business on a new growth trajectory.

Paul Fraser is president of Blaze Cineworks LLC, a consulting and project management firm that serves content and theater clients in all forms of digital cinema. Blaze also helps develop VR companions for giant-screen and fulldome producers. www.BlazeCineworks.com

(from *IMAX* on page 3)

more than a decade. After showing DMR films for almost two years, only to see museum attendance decline (see *Sept. 2016*), the museum dropped the IMAX brand in 2012 (but kept the 15/70 projector, which it owned), installed a fulldome system, and reoriented the dome theater's focus to astronomy and other mission-related topics.

Despite this history, Monti received the announcement of the new laser system. He shared with *LFX* his reply to **Mike Lutz**, Imax's vice president for institutional sales, in which he wrote, in part:

"Looks like you guys finally did it, congratulations. Let me tell you why I'm going in a different direction. I saw the D3D presentation in Cleveland and it

was very impressive. I'm betting that the IMAX system is just as good or better, and I really like the idea of a single projector. The thing is that we are in a different place now.

"We are moving more and more to fulldome planetarium shows; the school groups are eating them up. Long term, I believe the classic 40-minute large-format documentaries are done. They have been around a long time and have lost their luster; and Imax played no small part in killing them with their rebranding. So putting in a new laser system, yours or D3D's, is like painting the toenails of a dinosaur. What we are doing is upgrading our existing digital system, allowing us to play everything, including 1:43-aspect-ratio films, with a

later second upgrade to a laser system designed for fulldome planetariums."

Monti tells *LFX* that he plans to remove the 15/70 projector early next year.

Cassandra Henry, at **Science Spectrum** in Lubbock, TX, and **Manos Kitsonas** at the **Eugenides Planetarium** in Athens, Greece, both have **Iwerks/CDC 15/70** projectors; the latter also has an **E&S Digistar 3** fulldome system. Although they didn't hear directly from Imax about the new system, both say they will consider it when it is available, along with other options. But neither is in a rush. Kitsonas expects to keep his film projector until 2020, and Henry says there's "no time frame" for their conversion to digital.

(from *SHORTS* on page 24)

Screen program will be "reinvigorated," with an emphasis not only on size, but on the experience. The definition of "giant screen" may also be updated.

Under films, new GS filmmakers will be assisted with feedback on film buyers' expectations, sample marketing and educational materials, and other information to help them make their films more successful.

In another new initiative, the association launched an e-mail newsletter on Lifelong Learning. The first issue, sent in late February, provided case studies on programs in three museums: the **Pacific Science Center** in Seattle, WA; the **Maryland Science Center** in Baltimore, MD;

and the **Museum of Science and Industry** in Tampa, FL.

For more information, and to see the action plan, go to giantscreencinema.com.

AIS awards two GS films

The **Advanced Imaging Society** presented its annual Lumiere Awards in February, recognizing films that "advance the creative arts and sciences of stereoscopic 3D." Among the dozens of winners were two giant-screen titles. The prize for Best 3D Documentary went to ***Amazing Mighty Micro Monsters 3D*** from **Atlantic Productions** and **Colossus Productions**. The Best 3D Documentary Short was presented to **Giant Screen Films' *Mysteries of China***. **Jackson Hole deadline: June 1**

The **Jackson Hole Wildlife Film Festival** is accepting entries for its 2017 film competition, which will present awards in 23 categories: seven content categories, such as animal behavior, conservation, and climate; eleven program content, of which the most relevant for GS filmmakers are theatrical and Educational/Institutional; and five craft categories, including visualization, audioscape, and writing. Films may be nominated in more than one category.

The deadline is June 1, with an extended deadline of June 15 at an increased fee. For more information about eligibility and the entry process, visit jhfestival.org.

Bookings: Feb.-March 2017 by Film

522 bookings of 81 films in 169 theaters

These listings to not include Hollywood films shown in multiplex IMAX theaters. Those films are listed when they are shown in non-multiplex theaters, and conversely, non-Hollywood giant-screen films showing on multiplex IMAX screens are also listed.

Listings shown in **bold face** below are new or updated listings. The rest are unchanged from the previous

month's issue.

The data on the following pages are *not* warranted to be comprehensive or accurate in every detail, despite our best efforts to make them so. They have been compiled from theater surveys, distributors, the Web, and other sources.

We will make every effort to improve the thorough-

ness, and accuracy of these data. If your theater or film is not shown here, please get in touch with us to update our listings.

Where a date is not shown, it means that no date was provided by the source or, in the case of a closing date, that no date has been set, or that the run is indefinite.

The key to film abbreviations is on page 21.

Film	Theater	Open	Close	Film	Theater	Open	Close	Film	Theater	Open	Close
ACGOTS	Corpus Christi Lex	6/17/16			Richmond SMV	2/18/17	2/17/18		Syracuse MOST	7/4/15	7/3/17
	Dayton	6/17/16	5/31/17		Saint Augustine	2/17/17	2/16/18		Tallahassee CLC	1/18/13	6/30/17
	Memphis Pink	5/7/16	6/22/18		Saint Louis SC	2/17/17	2/16/18		Valencia Spn	7/1/15	6/30/17
	Singapore DC	8/1/16	3/31/17		San Diego RHF	3/10/17	3/9/18		Vancouver TWS	6/16/13	6/30/17
Africa	Hague	10/11/16	10/11/17		San Jose Tech	2/17/17	2/16/18		Victoria DCI	4/5/13	6/30/17
AIWC	Chandigarh	9/5/14	9/5/17		Seattle PSC 2	2/17/17	2/16/18		Al Khobar	8/20/15	2/20/17
Alaska	Shijiazhuang HST	1/1/17	1/1/19		Sudbury	2/17/17	2/16/18		Albuquerque NMMNH	3/18/17	3/17/18
Amazon	Syracuse MOST	4/1/16	5/31/17		Tallahassee CLC	2/17/17	2/16/18		Apple Valley Imx	10/3/14	4/28/17
AMMM	Galveston	3/4/17	5/26/17		Toronto OSC	2/17/17	8/16/18		Berlin SC	4/20/14	10/19/17
	Melbourne MV	7/11/16			Vancouver TWS	3/4/17	2/16/18		Bogota Mal	6/24/16	6/23/17
	Victoria DCI	2/3/17	3/12/17		Victoria DCI	3/17/17	3/16/18		Boston NEA	2/15/16	9/30/17
AOTE	Sioux Falls	4/1/16	6/30/17		Washington NASM	2/17/17	2/16/20		Budapest CC	4/24/14	5/21/17
AsterME	Jersey City	4/15/16	4/14/17	DSC	Davenport Put	2/6/15	3/9/17		Davenport Put	10/17/14	10/20/17
	Lehi	5/27/16	5/30/17		Dearborn THF	3/25/16	3/25/17		Guayaquil	4/20/14	5/4/17
BeauPlan	Salt Lake City Clark	4/29/16	4/30/17		Peoria RM	11/17/16	11/16/17		Hastings	2/10/15	6/10/17
Bugs	Calgary TS	9/28/15	9/28/17	EarthFil	Hastings	2/1/17	1/31/18		Houston MNS	6/6/16	5/31/17
	Columbus COSI	9/15/14	6/30/17	Everest	Baltimore MSC	9/15/15	9/14/17		Katowice CC	6/18/14	9/19/17
	Edmonton TWS	12/26/13	6/30/17		Hartberg	3/1/17			Krakow CC	6/18/14	9/19/17
	Lodz CC	8/24/15	8/24/17		Saint Paul SMM	3/3/17	5/4/17		Lodz CC	6/18/14	9/19/17
	London SM	10/22/16	3/22/17	ExtrWeat	Boston MOS	10/15/16	10/14/17		Louisville KSC	6/18/15	6/30/17
	San Diego RHF	7/1/14	6/30/17		Davenport Put	10/15/16	2/15/17		Melbourne MV	4/11/16	4/10/17
	Vancouver TWS	3/11/06	6/30/17		Des Moines	10/15/16	10/14/17		Moscow Kin	10/6/14	8/31/17
CRA	Hartberg	3/25/15	6/1/17		Hastings	10/19/16	10/14/17		New Orleans	12/22/16	2/28/17
D-Day	Erie	11/11/15	7/6/17		Houston MNS	10/15/16	10/14/17		Orlando SC	7/5/14	1/4/18
	Fort Worth	9/5/15	6/30/17		Hutchinson	10/24/16	10/14/17		Philadelphia FI	9/6/16	9/5/17
	Gatineau	9/1/15	3/30/18		Jersey City	10/15/16	10/14/17		Poznan CC	6/18/14	9/19/17
	Hastings	5/15/15	12/31/18		Kansas City Sci	10/15/16	10/14/17		Prague CC	5/22/14	5/21/17
	Hutchinson	4/21/14	6/30/17		Lehi	10/15/16	10/14/17		Saint Augustine	4/1/15	4/30/17
	Raleigh	5/23/14	2/1/17		Louisville KSC	10/15/16	10/14/17		Seattle PSC 2	11/20/15	4/30/17
	Seattle PSC 2	3/29/14	6/30/19		McMinnville	10/27/16	10/26/17		Toyohashi	3/1/17	6/30/17
	Sudbury	5/30/16	6/1/17		Milwaukee	10/15/16	10/14/17		Victoria DCI	9/4/15	6/30/18
	Vancouver TWS	11/7/15	11/12/17		Orlando SC	10/15/16	10/14/17		Virginia Beach AMSC	5/28/16	10/27/17
DinoAliv	Atlanta FMNH	8/15/16	8/14/17		Peoria RM	10/15/16	10/14/17		Warsaw CC	6/18/14	9/19/17
	Davenport Put	2/1/15	6/30/17		Pittsburgh CSC	10/15/16	10/14/17		Grand Canyon DCI	11/1/99	12/17
	Fort Worth	7/15/16	6/9/17		Raleigh	10/17/16	10/14/17		Grand Rapids Cel	4/22/16	4/21/17
	Houston MNS	12/15/15	6/30/17		Regina	10/15/16	10/14/17		Richmond SMV	6/1/16	3/1/17
	Mexicali	11/5/16	5/31/17		Salt Lake City Clark	11/18/16	11/17/17		Shanghai 3D STM		3/1/17
	Mobile	9/24/16	4/14/17		San Diego RHF	11/11/15	10/14/17		Seattle PSC 1	10/1/16	10/1/17
	Tampa MOSI	1/30/16	6/30/17		San Jose Tech	10/15/16	10/14/17		Baltimore MSC		9/14/17
Dolphins	Boston MOS	4/9/16	3/1/17		Sudbury	10/15/16	10/14/17		Saint Augustine	1/1/15	12/31/17
	Fort Worth	5/28/16	12/31/17		Victoria DCI	10/28/16	10/14/17		Saint Augustine	2/1/15	12/31/17
	Hague	3/1/17			Virginia Beach AMSC	10/15/16	10/14/17		Albuquerque NMMNH	7/1/16	6/30/17
	Speyer Dome	8/22/12	3/1/17	FightPil	Chantilly	12/10/04			Boston NEA	5/31/13	4/30/18
	Speyer Dome		12/31/17		Corpus Christi Lex	5/12/12			Chicago MSI	5/27/16	5/31/17
	Syracuse MOST	4/1/16	5/31/17		Dayton	3/1/13			Gatineau	10/7/16	6/30/18
Dragons	Leon Exp	1/13/17	2/7/17		Huntsville USSRC	7/1/13			Mobile	5/28/16	5/30/17
	Syracuse MOST	7/2/16	7/1/17		McMinnville	3/23/12			New Orleans	12/26/16	12/31/17
	Thessaloniki	10/1/16	9/30/17		Calgary TS	1/1/15	4/15/17		Phoenix ASC	9/15/16	9/30/17
DreamBig	Atlanta FMNH	2/17/17	2/16/18	FlyMons	Kenner	6/4/16	6/3/17		Sacramento Imx	2/20/15	6/30/17
	Baltimore MSC	2/17/17	2/16/18		Kuwait SCK	9/5/16	9/4/17		Sudbury	3/3/16	3/31/17
	Birmingham AL	2/17/17	2/16/18		Philadelphia FI	11/25/16			Tampa MOSI	1/1/16	6/30/18
	Chantilly	2/17/17	2/16/20		Copenhagen TBP	1/1/16	12/31/17		San Simeon DCI	8/17/96	
	Chattanooga TA	2/17/17	2/16/18		Hague	2/18/17	2/18/17		Glasgow		3/1/17
	Chicago MSI	2/17/17	2/16/18		Davenport Put	5/18/16	5/17/17		Monterrey Pap	10/25/16	2/23/17
	Cleveland	3/17/17	2/16/18	FON	Harrisburg	10/15/15	11/2/17		Tallahassee CLC		3/1/17
	Columbus COSI	2/17/17	2/16/18		Louisville KSC	6/18/15	7/2/17		Valencia Spn		6/1/17
	Davenport Put	2/24/17	2/23/18		Apple Valley Imx	6/5/15	1/12/18		Dongguan STM	3/1/16	2/28/17
	Denver MNS	2/17/17	2/16/18	FOTB	Baton Rouge LASM	9/1/15	8/31/17		New Orleans		12/31/17
	Des Moines	2/24/17	2/23/18		Chicago MSI	2/28/14	6/30/17		Hague	1/11/11	12/31/17
	Detroit MSC	2/17/17	2/16/18		Cleveland	11/27/13	6/30/17		Vancouver TWS	7/1/16	6/30/18
	Edmonton TWS	3/25/17	3/24/18		Columbus COSI	9/1/14	6/30/17		Apple Valley Imx	2/3/17	9/30/17
	Fort Lauderdale	2/17/17	2/16/18		Davenport Put	2/15/13	6/30/17		Baltimore MSC	7/1/15	3/1/17
	Fort Worth	2/17/17	2/16/18		Edmonton TWS	12/26/13	6/30/17		Boston NEA		3/1/17
	Hampton VASC	2/17/17	2/16/18		Gatineau	10/5/12	6/30/17		Copenhagen TBP	10/8/15	3/1/17
	Harrisburg	2/18/17	2/17/18		Hampton VASC	3/29/13	6/30/17		Davenport Put	6/1/16	6/1/17
	Houston MNS	2/17/17	2/16/18		Harrisburg	2/2/14	6/30/17		Hague	6/28/16	6/17/17
	Huntsville USSRC	2/17/17	2/16/18		Hastings	3/17/13	6/30/17		Houston MNS	3/13/15	3/15/17
	Hutchinson	2/17/17	2/16/18		Houston MNS	10/4/12	12/31/17		Indianapolis Imx	8/17/16	5/31/17
	Jersey City	2/17/17	8/16/18		Louisville KSC	9/30/12	6/30/17		Kuwait SCK	7/6/16	7/5/17
	Los Angeles CSC	2/17/17	2/11/18		Memphis Pink	3/1/14	5/27/17		Lucerne	10/6/16	10/5/17
	Louisville KSC	2/17/17	2/16/18		Orlando SC	3/1/14	6/30/17		Mexico City PAP	11/16/16	11/15/17
	Mexico City Pap	3/15/17	3/14/18		Peoria RM	4/1/16	8/26/17		Montreal SC	9/23/16	6/16/17
	Norwalk MA	2/17/17	2/16/18		Phoenix ASC	10/7/16	3/1/18		New York AMNH	3/3/17	9/3/17
	Orlando SC	2/17/17	8/16/18		Pittsburgh CSC	3/15/13	7/31/17		Nuremberg		3/1/17
	Pensacola NAM	3/1/17	6/30/18		Richmond SMV	5/1/13	6/30/18		Orlando SC	10/28/16	10/27/17
	Peoria RM	2/18/17	2/17/18		Sacramento Imx	8/13/13	6/30/17		Paris Geo	7/7/15	3/1/17
	Phoenix ASC	2/17/17	2/16/18		Saint Augustine	1/18/13	12/31/17		Pittsburgh CSC	6/17/16	3/1/17
	Pittsburgh CSC	2/17/17	2/16/18		Saint Paul SMM	7/1/16	6/30/17		Raleigh	3/20/15	3/1/17
	Portland OMSI ET	2/17/17	2/16/18		Salt Lake City Clark	2/8/13	8/6/17		Richmond SMV	3/14/15	3/1/17
	Raleigh	2/17/17	2/16/18		San Diego RHF	10/12/12	9/30/17		Sacramento Imx	8/19/16	5/30/17
	Regina	2/17/17	2/16/18		San Jose Tech	2/9/13	6/30/17		Tallahassee CLC	2/20/15	3/1/17

Film	Theater	Open	Close	Film	Theater	Open	Close	Film	Theater	Open	Close
IncrPred	Tijuana	7/15/16	7/14/17	Mof	Charlotte DP	11/19/16	4/30/17	Ozarks	Salt Lake City Clark	2/12/16	2/11/17
	Albuquerque NMMNH	12/17/16	1/1/18		Edmonton TWS	1/27/17	1/31/18		San Antonio San	7/25/16	7/25/17
	Salt Lake City Clark	2/17/17	2/17/18		Fort Worth	10/14/16	10/31/17		San Diego RHF	3/18/16	2/11/17
Jerusale	Sioux Falls	12/22/16	6/30/18	MOTN	Lehi	9/1/16	8/31/17	Penguins	San Jose Tech	2/12/16	2/11/17
	Columbus COSI	2/11/15	2/10/17		London BFI Ode	1/20/17	1/31/18		Seattle PSC 2	2/12/16	2/11/17
	Fort Worth	3/21/16	6/30/17		Saint Louis SC	10/1/16	10/1/17		Shanghai 3D STM	12/1/16	6/1/17
JAC	Kansas City Sci	9/19/14	3/17/17	MOTUW	Pensacola NAM	11/8/96		PTJH	Shreveport	2/12/16	2/11/17
	Louisville KSC	1/20/14	7/2/17		Speyer Dome		6/1/17		Sinshiem	3/4/16	2/28/17
	Mexicali	2/9/16	2/9/17		Cairo EMA	12/15/15	12/14/17		Sioux Falls	8/13/16	8/12/17
JMCSO	Milwaukee	10/9/15	7/30/17	Mummies	Charleston CCAS	10/27/16	10/26/17	RobotsNG	Sudbury	2/12/16	2/11/17
	Peoria RM	11/14/15	11/4/17		Saint Paul SMM	3/3/17	5/4/17		Sydney WBS	2/25/16	2/24/17
	Portland OMSI ET	11/18/13	5/30/17		Athens Eug	4/13/16	4/10/17		Tallahassee CLC	2/19/16	2/18/17
JTM	Raleigh	2/21/14	2/28/17	ND	Calgary TS	7/1/14		Rescue	Tampa MOSI	2/12/16	2/11/17
	San Jose Tech	3/15/15	6/20/17		Dearborn THF	3/25/16	3/25/17		Tijuana	2/19/16	2/18/17
	Baltimore MSC	9/15/15	9/14/17		Gatineau	1/15/16	6/30/17		Toronto OSC	7/1/16	6/30/17
JTS	Nanchang JTSC	11/10/16	11/10/17	Niagara	Hague	10/1/15	12/17	SeaMonst	Valencia Spn	10/7/16	10/6/17
	Al Khobar	9/5/16	9/5/17		Houston MNS	1/6/14	5/31/17		Vancouver TWS	2/12/16	2/11/17
	Edmonton TWS	5/20/16	12/31/17		Mexicali	11/20/15	5/30/17		Victoria DCI	2/12/16	3/3/17
JMSO	Edmonton TWS	11/15/16	12/31/17	NPA	Milwaukee	10/1/14	7/30/17	TOTIA	Virginia Beach AMSC	2/12/16	2/11/17
	Galveston	3/6/15	3/6/17		Raleigh	11/1/15	10/31/17		Washington NMNH	2/12/16	2/11/17
	Guayaquil	4/15/16	4/14/17		San Jose Tech	8/30/14	6/20/17		Yellowstone	5/1/16	4/30/17
JMSO	Hastings	2/11/16	2/11/17	NPA	Singapore SC	6/13/16	12/31/17	ToFly	Branson	9/93	12/17
	Jersey City	2/17/17	7/31/17		Valencia Spn	7/1/14	6/30/17		Ahmedabad	7/1/16	6/30/17
	Kuwait SCK	7/17/15	7/17/17		Virginia Beach AMSC	2/1/16	2/11/17		Matsusaka	1/14/17	4/16/17
JMSO	Lucerne	3/17/16	3/16/17	Mummies	Washington NMNH	9/26/14	9/30/17	PTJH	Columbus COSI	5/1/14	5/30/17
	Memphis Pink	6/25/16	6/23/17		Denver MNS	10/14/16	2/28/17		Davenport Put	7/17/14	7/14/17
	New Orleans	2/12/16	2/2/17		Mobile	5/28/16	5/30/17		Gatineau	5/9/14	3/31/17
JMSO	Poitiers Solido	2/1/16	12/31/17	Niagara	New Delhi ICC			Rescue	Louisville KSC	7/4/14	7/2/17
	Port of Spain	2/7/17	2/7/18		Niagara Can DCI	7/1/86			Milwaukee	6/13/14	6/30/17
	San Diego RHF	7/3/15	3/17/17		Niagara NY DCI	5/1/07			Dayton	6/1/16	6/1/17
JMSO	Seattle PSC 1	9/30/16	3/30/17	NPA	Atlanta FMNH	2/12/16		RobotsNG	McMinnville	6/1/12	
	Shanghai 3D STM	12/31/16	12/31/17		Austin TSHM	2/12/16	2/11/17		Calgary TS	5/1/16	4/30/17
	Shenyang LSTM	11/1/16	11/1/17		Baton Rouge LASM	11/1/16	10/31/17		Dearborn THF	3/25/16	3/25/17
JMSO	Sudbury	3/11/17	9/10/17	NPA	Birmingham AL	5/20/16	5/19/17	RobotsNG	Denver MNS	3/18/16	2/28/17
	Washington NMNH	3/20/15	3/20/17		Boston MOS	2/12/16	2/11/17		Erie	2/6/16	2/28/17
	Edmonton TWS	12/26/13	6/30/17		Branson	3/18/16	12/31/17		Hampton VASC	6/20/15	6/19/17
JMSO	Agua Calientes	6/17/16	8/15/17	NPA	Carnival Vista	11/4/16	5/4/17	RobotsNG	Hutchinson	5/20/16	5/20/17
	Alamogordo	7/1/16	6/20/17		Chandigarh	9/5/16	9/4/17		Philadelphia FI	10/1/16	10/1/17
	Albuquerque NMMNH	4/30/16	4/30/17		NPA	Charleston CCAS	10/27/16	7/1/17	RobotsNG	Phoenix ASC	9/17/16
Baltimore MSC	7/1/16	6/30/17	Charlotte DP	5/20/16		2/11/17	Saint Augustine	8/1/16		7/30/17	
Chantilly	5/1/15	5/1/17	Chattanooga TA	2/12/16		2/11/17	Sioux Falls	3/4/16			
Chattanooga TA	1/6/17	1/6/18	Chicago MSI	2/12/16	2/11/17	Tallahassee CLC	10/16/15	10/14/17			
Cleveland	10/1/16	10/1/17	Columbus COSI	2/12/16	2/11/17	Tampa MOSI	10/5/16	10/4/17			
Dayton	3/6/15	3/5/17	Columbus GA NIM	4/1/16	3/29/17	Valencia Spn	3/1/16	3/10/17			
Erie	6/18/16	6/18/17	Copenhagen TBP	2/12/16	2/10/17	Baltimore MSC	9/15/15	9/14/17			
Garden City	7/1/16	7/1/17	Davenport Put	2/12/16	2/11/17	RogueOne	Huntsville USSRC	12/16/16			
Hampton VASC	2/21/15	2/20/18	Dearborn THF	3/25/16	11/26/17		ROTB	Saint Augustine	10/3/15	12/31/17	
Harrisburg	9/14/15	6/30/17	Dearborn THF	3/25/16	3/24/17		SeaMonst	Davenport Put	4/27/16	4/26/17	
Houston SCH	3/14/15	3/17/17	Denver MNS	7/1/16	6/30/17	SeaMonst	Milwaukee	2/5/16	2/4/17		
Hutchinson	2/20/15	7/2/18	Des Moines	2/12/16	2/11/17		Pittsburgh CSC	7/1/16	12/31/17		
Kolkata SC	7/1/16	7/1/17	Detroit MSC	2/12/16	2/11/17		Richmond SMV	6/20/14	8/31/17		
KSC 1	2/27/15		Dongguan STM	1/25/17	1/24/18	San Diego RHF	2/2/17	9/4/17			
Lehi	1/1/16	6/30/17	Edmonton TWS	2/12/16	2/11/17	Valencia Spn	7/1/16	12/31/17			
Louisville KSC	4/3/15	6/30/18	Fort Lauderdale	2/12/16	2/10/17	SFLIS	Atlanta FMNH	10/7/16	10/6/17		
Lucerne	11/26/16	11/26/17	Fort Worth	2/12/16	2/11/17		Copenhagen TBP	2/9/17	2/8/18		
Memphis Pink	1/9/16	5/29/17	Galveston	3/5/16	3/4/17	SFLIS	Hampton VASC	10/21/16	10/20/17		
Parker	10/1/16	3/31/17	Garza Garcia	2/24/17	6/29/17		Lubbock SS	10/7/16	10/6/17		
Peoria RM	6/11/16	12/31/17	Hague	2/16/16	2/15/17	Sharks3D	Melbourne MV	3/16/17	3/22/18		
Phoenix ASC	10/1/16	10/1/17	Hampton VASC	4/29/16	4/28/17		Penrith	1/1/17	4/30/17		
Salt Lake City Clark	5/15/15	5/31/17	Harbin STM	1/1/17	12/31/17		Sharks3D	Puebla PDP	4/1/16	4/1/17	
San Jose Tech	4/30/16	6/30/17	Harrisburg	7/1/16	6/30/17	SpaceNex	Calgary TS	1/1/17	12/31/18		
Sioux Falls	8/19/16	8/19/17	Hastings	6/9/16	6/8/17		Columbus GA NIM	11/25/16	12/31/17		
Syracuse MOST	10/1/16	4/1/17	Houston MNS	2/12/16	5/31/17		Hong Kong SM	1/1/17	6/30/17		
Taichung NMNS	7/1/16	6/30/17	Hutchinson	2/19/16	2/18/17	SpacJunk	Huntsville USSRC	3/1/16	8/31/17		
Taipei AM	7/1/16	7/1/17	Indianapolis Imx	2/12/16	2/11/17		TA	Hutchinson	10/31/14	10/31/17	
Tijuana	4/1/16	4/1/17	Jersey City	2/12/16	2/11/17		TinyGian	Vulcania	3/13/16		
Washington NASM	3/6/15		Kansas City Sci	5/31/16	5/30/17	Bradford		9/1/16	9/30/17		
Columbus COSI	11/26/16	10/22/17	Kaohsiung NSTM	7/1/16	6/30/17	Cleveland		10/1/16	10/31/17		
Lubbock SS	11/25/16	5/26/17	Kitakyushu	7/2/16	6/30/17	Columbus COSI	3/11/15	10/31/17			
Monterrey Pap	12/10/16	4/10/17	Lehi	3/24/17	3/2/18	Galveston	9/1/16	9/1/17			
Paris Geo	3/1/17		London BFI Ode	2/12/16		Gatineau	12/23/16	12/31/17			
Stockholm	3/1/17		Los Angeles CSC	2/12/16	2/11/17	Jersey City	9/25/15	2/12/17			
Baltimore MSC	10/1/15	6/30/17	Louisville KSC	2/12/16	2/11/17	Las Palmas	5/30/16	5/30/17			
Baton Rouge LASM	11/3/15	11/2/18	Lubbock SS	5/20/16	5/19/17	Orlando SC	8/6/16	8/31/17			
Davenport Put	4/27/16	4/26/17	Lucerne	3/17/16	3/17/17	Poitiers Imax	4/1/16	4/30/17			
Harrisburg	11/7/16	11/3/17	Melbourne MV	2/25/16	2/24/17	ToFly	Saint Felicien	5/1/16	5/1/17		
Louisville KSC	7/1/16	7/2/17	Memphis Pink	3/5/16	3/4/17		Seattle PSC 1	9/12/15	9/12/17		
Portland OMSI ET	7/21/15	7/20/17	Mexico City Pap	3/18/16	3/17/17		Sudbury	6/4/16	5/31/17		
Saint Louis SC	8/1/15	7/30/17	Milwaukee	9/17/16	9/16/17	ToFly	Victoria DCI	12/2/16	12/2/17		
San Jose Tech	6/8/16	6/20/17	Montreal SC	2/20/17	2/19/18		Rochester MSC	7/1/16	6/30/18		
Cleveland	7/1/16	6/30/17	Norwalk MA	5/27/16	5/10/17		Washington NASM	3/7/16	12/31/17		
Davenport Put	7/1/15	6/30/17	Nuremberg	3/3/16	2/11/17	TOTIA	Vancouver TWS	6/1/16	6/30/17		
Dongguan STM	4/1/16	4/1/17	Omaha Zoo	2/12/16	2/11/17		TTA	Moscow Kin	1/11/16	12/31/17	
Hutchinson	10/5/12	9/30/17	Orlando SC	2/12/16	2/11/17		Paris Geo	10/6/15	6/1/17		
Lehi	6/24/16	6/30/17	Parker	1/27/17	7/28/17	TTL	Saint Paul SMM	3/3/17	5/4/17		
Louisville KSC	2/8/14	6/30/17	Penrith	3/27/17	9/3/17		Seattle PSC 2	1/20/17	12/31/17		
Moscow Kin	6/1/16	10/31/17	Pensacola NAM	9/5/16	9/4/17		VanGogh	Tijuana	3/1/17	3/31/17	
Sacramento Imx	5/20/16	6/30/17	Peoria RM	8/27/16	8/26/17	Hague		9/1/15	6/1/17		
Sioux Falls	1/30/15	6/30/17	Philadelphia FI	2/20/16	2/19/17	Peoria RM		3/22/16	2/1/17		
Tallahassee CLC	1/17/14	6/30/17	Phoenix ASC	9/17/16	3/2/17	VOT	Tijuana	3/24/17	3/23/18		
LITAOA	Davenport Put	7/1/16	Pittsburgh CSC	2/12/16	2/11/17		WATE	Salt Lake City Clark	10/21/16	6/30/17	
	Gatineau	4/18/16	Portland OMSI ET	2/12/16	2/11/17		WildAfri	Katoomba	6/1/97		
	Hutchinson	5/1/15	5/30/17	Quebec Cpx	6/24/16	6/23/17	Al Khobar	4/15/16	4/30/17		
San Jose Tech	3/5/16	3/4/17	Raleigh	2/27/16	2/26/17	WildAfri	Apple Valley Imx	2/1/16	6/30/17		
Victoria DCI	6/10/16	6/9/17	Regina	2/12/16	2/11/17		Austin TSHM	2/2/17	2/28/18		
LivingSe	Hartberg	10/1/13	12/31/17	Richmond SMV	4/10/16		4/9/17	Birmingham AL	3/18/16	2/15/17	
LOF	McMinnville	3/23/12		Sacramento Imx	2/19/16	2/18/17	Chattanooga TA	11/16/16	11/30/17		
MA	Kurashiki	7/5/16	7/4/17	Saint Augustine	2/12/16	2/11/17	Denver MNS	9/23/16	9/30/17		
MOC	Melbourne MV	1/1/17	1/1/18	Saint Louis SC	2/12/16	2/11/17	Edmonton TWS	10/28/16	10/31/17		
	Albuquerque NMMNH	9/1/16	9/1/17	Saint Paul SMM	3/4/16	2/11/17	Galveston	5/28/16	5/31/17		

Film	Theater	Open	Close	Film	Theater	Open	Close	Film	Theater	Open	Close
Gatineau		6/24/16	6/30/17								
Houston MNS		6/1/16	6/30/17	WildOcea	Tijuana	10/1/16	3/31/17		Gatineau	2/28/16	2/28/17
Memphis Pink		1/7/17	5/28/17	WM	Davenport Put	2/1/15	6/30/17		Guayaquil	5/1/16	2/28/17
Mobile		1/20/17	5/28/17	WOTA	Guayaquil	4/20/16	4/19/17		Las Palmas	5/30/16	5/30/17
Orlando SC		3/12/16	3/31/17		Hong Kong SM	9/16/16	2/28/17		Lehi	9/26/14	9/30/17
Richmond SMV		2/1/17			New York AMNH	9/2/16	3/31/17		Milwaukee	2/1/16	6/30/17
San Diego NHM		9/7/16	9/30/17		Orlando SC	7/1/16	6/30/17		Saint Augustine	1/9/17	1/31/18
Stockholm		6/1/16	6/30/17	WWDDPP3D	Vancouver TWS	1/1/17	1/31/18	Yell	Valencia Spn	7/1/16	7/31/17
Tallahassee CLC		5/15/16	5/31/17		Bradford	9/16/15	9/30/17		Yellowstone	5/1/14	12/31/17
Tampa MOSI		12/1/16	11/30/17		Copenhagen TBP	12/1/16	5/31/17				
					Erie	9/15/16	9/30/17				

Feb.-March 2017 by Theater

Theater	Film	Open	Close	Theater	Film	Open	Close	Theater	Film	Open	Close
Aguascalientes	JTS	6/17/16	8/15/17		FOTB	9/1/14	6/30/17	Garza Garcia	NPA	2/24/17	6/29/17
Ahmedabad	Penguins	7/1/16	6/30/17		Jerusale	2/11/15	2/10/17	Gatineau	D-Day	9/1/15	3/30/18
Al Khobar	G3DNW	8/20/15	2/20/17		JTTSF	11/26/16	10/22/17		FOTB	10/5/12	6/30/17
	JMCOS	9/5/16	9/5/17		NPA	2/12/16	2/11/17		GWS	10/7/16	6/30/18
Alamogordo	WildAfri	4/15/16	4/30/17		PTJH	5/1/14	5/30/17		LITAOA	4/18/16	4/17/17
Albuquerque NMMNH	JTS	7/1/16	6/20/17	Columbus GA NIM	TinyGian	3/11/15	10/31/17		MOTUW	1/15/16	6/30/17
	G3DNW	3/18/17	3/17/18		NPA	4/1/16	3/29/17		PTJH	5/9/14	3/31/17
	GWS	7/1/16	6/30/17		SpaceNex	11/25/16	12/31/17		TinyGian	12/23/16	12/31/17
	IncrPred	12/17/16	1/1/18	Copenhagen TBP	FMTTM	1/1/16	12/31/17		WildAfri	6/24/16	6/30/17
	JTS	4/30/16	4/30/17		HumpbWha	10/8/15	3/1/17		WWDDPP3D	2/28/16	2/28/17
Apple Valley Imx	MOC	9/1/16	9/1/17		NPA	2/12/16	2/10/17	Glasgow	HidUniv		3/1/17
	FOTB	6/5/15	1/12/18		SFLIS	2/9/17	2/8/18	Grand Canyon DCI	GC	11/1/99	12/17
	G3DNW	10/3/14	4/28/17		WWDDPP3D	12/1/16	5/31/17	Grand Rapids Cel	GCA	4/22/16	4/21/17
	HumpbWha	2/3/17	9/30/17	Corpus Christi Lex	ACGOTS	6/17/16		Guayaquil	G3DNW	4/20/14	5/4/17
	WildAfri	2/1/16	6/30/17		FightPil	5/12/12			JMCOS	4/15/16	4/14/17
Athens Eug	MOTUW	4/13/16	4/10/17	Davenport Put	DinoAliv	2/1/15	6/30/17		WM	4/20/16	4/19/17
Atlanta FMNH	DinoAliv	8/15/16	8/14/17		DreamBig	2/24/17	2/23/18		WWDDPP3D	5/1/16	2/28/17
	DreamBig	2/17/17	2/16/18		DSC	2/6/15	3/9/17	Hague	Africa	10/11/16	10/11/17
	NPA	2/12/16			ExtrWeat	10/15/16	2/15/17		Dolphins		3/1/17
	SFLIS	10/7/16	10/6/17		FON	5/18/16	5/17/17		FMTTM	2/18/17	2/18/17
Austin TSHM	NPA	2/12/16	2/1/17		FOTB	2/15/13	6/30/17		HumanBod	1/11/11	12/31/17
	WildAfri	2/2/17	2/28/18		G3DNW	10/17/14	10/20/17		HumpbWha	6/28/16	6/17/17
Baltimore MSC	DreamBig	2/17/17	2/16/18		HumpbWha	6/1/16	6/1/17		MOTUW	10/1/15	12/17
	Everest	9/15/15	9/14/17		L&C	4/27/16	4/26/17		NPA	2/16/16	2/15/17
	Greece		9/14/17		LastReef	7/1/15	6/30/17	Hampton VASC	VanGogh	9/1/15	6/1/17
	HumpbWha	7/1/15	3/1/17		LITAOA	7/1/16	9/30/17		DreamBig	2/17/17	2/16/18
	JAC	9/15/15	9/14/17		NPA	2/12/16	2/11/17		FOTB	3/29/13	6/30/17
	JTS	7/1/16	6/30/17		PTJH	7/17/14	7/14/17		JTS	2/21/15	2/20/18
	L&C	10/1/15	6/30/17		SeaMonst	4/26/16	4/26/17		NPA	4/29/16	4/28/17
Baton Rouge LASM	ROF	9/15/15	9/14/17	Dayton	WildOcea	2/1/15	6/30/17		RobotsNG	6/20/15	6/19/17
	FOTB	9/1/15	8/31/17		ACGOTS	6/17/16	5/31/17		SFLIS	10/21/16	10/20/17
	L&C	11/3/15	11/2/18		FightPil	3/1/13		Harbin STM	NPA	1/1/17	12/31/17
	NPA	11/1/16	10/31/17		JTS	3/6/15	3/5/17	Harrisburg	DreamBig	2/18/17	2/17/18
Berlin CS	G3DNW	4/20/14	10/19/17		Rescue	6/1/16	6/1/17		FON	10/15/15	11/2/17
Birmingham AL	DreamBig	2/17/17	2/16/18	Dearborn THF	DSC	3/25/16	3/25/17		FOTB	2/2/14	6/30/17
	NPA	5/20/16	5/19/17		MOTUW	3/25/16	3/25/17		JTS	9/14/15	6/30/17
	WildAfri	3/18/16	2/15/17		NPA	3/25/16	3/24/17		L&C	11/7/16	11/3/17
Bogota Mal	G3DNW	6/24/16	6/23/17		NPA	3/25/16	11/26/17		NPA	7/1/16	6/30/17
Boston MOS	Dolphins	4/9/16	3/1/17	Denver MNS	RobotsNG	3/25/16	3/25/17	Hartberg	CRA	3/25/15	6/1/17
	ExtrWeat	10/15/16	10/14/17		DreamBig	2/17/17	2/16/18		Everest		3/1/17
	NPA	2/12/16	2/11/17		Mummies	10/14/16	2/28/17		LivingSe	10/1/13	12/31/17
Boston NEA	G3DNW	2/15/16	9/30/17		NPA	7/1/16	6/30/17	Hastings	D-Day	5/15/15	12/31/18
	GWS	5/31/13	4/30/18		RobotsNG	3/18/16	2/28/17		EarthFli	2/1/17	1/31/18
	HumpbWha		3/1/17		WildAfri	9/23/16	9/30/17		ExtrWeat	10/19/16	10/14/17
Bradford	TinyGian	9/1/16	9/30/17	Des Moines	DreamBig	2/24/17	2/23/18		FOTB	3/17/13	6/30/17
	WWDDPP3D	9/16/15	9/30/17		ExtrWeat	10/15/16	10/14/17		G3DNW	2/10/15	6/10/17
Branson	NPA	3/18/16	12/31/17		NPA	2/12/16	2/11/17		JMCOS	2/1/16	2/1/17
	Ozarks	9/9/3	12/17	Detroit MSC	DreamBig	2/17/17	2/16/18		NPA	6/9/16	6/8/17
Budapest CC	G3DNW	4/24/14	5/21/17		NPA	2/12/16	2/11/17	Hong Kong SM	SpaceNex	1/1/17	6/30/17
Cairo EMA	MOTN	12/15/15	12/14/17	Dongguan STM	HOTB	3/1/16	2/28/17		WOTA	9/16/16	2/28/17
Calgary TS	Bugs	9/28/15	9/28/17		LastReef	4/1/16	4/1/17	Houston MNS	DinoAliv	12/15/15	6/30/17
	FlyMons	1/1/15	4/15/17		NPA	1/25/17	1/24/18		DreamBig	2/17/17	2/16/18
	MOTUW	7/1/14		Edmonton TWS	Bugs	12/26/13	6/30/17		ExtrWeat	10/15/16	10/14/17
	RobotsNG	5/1/16	4/30/17		DreamBig	3/25/17	3/24/18		FOTB	10/4/12	12/31/17
	SpaceNex	1/1/17	12/31/18		FOTB	12/26/13	6/30/17		G3DNW	6/6/16	5/31/17
Carnival Vista	NPA	11/4/16	5/4/17		JMCOS	5/20/16	12/31/17		HumpbWha	3/13/15	3/15/17
Chandigarh	AWC	9/5/14	9/5/17		JMCOS	11/15/16	12/31/17		MOTUW	1/6/14	5/31/17
	NPA	9/5/16	9/4/17		JTM	12/26/13	6/30/17		NPA	2/12/16	5/31/17
Chantilly	DreamBig	2/17/17	2/16/20		MOC	1/27/17	1/31/18		WildAfri	6/1/16	6/30/17
	FightPil	12/10/04			NPA	2/12/16	2/11/17	Houston SCH	JTS	3/14/15	3/17/17
	JTS	5/1/15	5/1/17		WildAfri	10/28/16	10/31/17	Huntsville USSRC	DreamBig	2/17/17	2/16/18
Charleston CCAS	MOTN	10/27/16	10/26/17	Erie	D-Day	11/11/15	7/6/17		FightPil	7/1/13	
	NPA	10/27/16	7/1/17		JTS	6/18/16	6/18/17		RogueOne	12/16/16	
Charlotte DP	MOC	11/19/16	4/30/17		RobotsNG	2/6/16	2/28/17		SpaceNex	3/1/16	8/31/17
	NPA	5/20/16	2/11/17		WWDDPP3D	9/15/16	9/30/17	Hutchinson	D-Day	4/21/14	6/30/17
Chattanooga TA	DreamBig	2/17/17	2/16/18	Fort Lauderdale	DreamBig	2/17/17	2/16/18		DreamBig	2/17/17	2/16/18
	JTS	1/6/17	1/6/18		NPA	2/12/16	2/10/17		ExtrWeat	10/24/16	10/14/17
	NPA	2/12/16	2/11/17	Fort Worth	D-Day	9/5/15	6/30/17		JTS	2/20/15	7/2/18
	WildAfri	11/16/16	11/30/17		DinoAliv	7/15/16	6/9/17		LastReef	10/5/12	9/30/17
Chicago MSI	DreamBig	2/17/17	2/16/18		Dolphins	5/28/16	12/31/17		LITAOA	5/1/15	5/30/17
	FOTB	2/28/14	6/30/17		DreamBig	2/17/17	2/16/18		NPA	2/19/16	2/18/17
	GWS	5/27/16	5/31/17		Jerusale	3/21/16	6/30/17		RobotsNG	5/20/16	5/20/17
	NPA	2/12/16	2/11/17		MOC	10/14/16	10/31/17	Indianapolis Imx	SpacJunk	10/31/14	10/31/17
Cleveland	DreamBig	3/17/17	2/16/18		NPA	2/12/16	2/11/17		HumpbWha	8/17/16	5/31/17
	FOTB	11/27/13	6/30/17	Galveston	AMMM	3/4/17	5/26/17		NPA	2/12/16	2/1/17
	JTS	10/1/16	10/1/17		JMCOS	3/6/15	3/6/17	Jersey City	AsterME	4/15/16	4/14/17
	LastReef	7/1/16	6/30/17		NPA	3/5/16	3/4/17		DreamBig	2/17/17	8/16/18
	TinyGian	10/1/16	10/31/17		TinyGian	9/1/16	9/1/17		ExtrWeat	10/15/16	10/14/17
Columbus COSI	Bugs	9/15/14	6/30/17		WildAfri	5/28/16	5/31/17		JMCOS	2/17/17	7/31/17
	DreamBig	2/17/17	2/16/18	Garden City	JTS	7/1/16	7/1/17		NPA	2/12/16	2/11/17

Theater	Film	Open	Close	Theater	Film	Open	Close	Theater	Film	Open	Close
Kansas City Sci	TinyGian ExtrWeat Jerusale NPA	9/25/15 10/15/16 9/19/14 5/31/16	2/12/17 10/14/17 3/17/17 5/30/17	Norwalk MA	DreamBig NPA	2/17/17 5/27/16	2/16/18 5/10/17	Salt Lake City Clark	BeauPlan ExtrWeat FOFB IncrPred	4/29/16 11/18/16 2/8/13 2/17/17	4/30/17 11/17/17 8/6/17 2/17/18
Kaohsiung NSTM	NPA	7/1/16	6/30/17	Nuremberg	HumpbWha NPA	3/3/16 2/11/17	2/11/17	San Antonio San	JTS NPA	5/15/15 2/12/16	5/31/17 2/11/17
Katoomba	WATE	6/1/97		Omaha Zoo	DreamBig	2/17/17	8/16/18	San Diego NHM	VOT	10/21/16	6/30/17
Katowice CC	G3DNW	6/18/14	9/19/17	Orlando SC	ExtrWeat FOFB G3DNW	10/15/16 3/1/14 7/5/14	10/14/17 6/30/17 1/4/18	San Diego RHF	NPA WildAfri Bugs	7/25/16 9/7/16 7/1/14	7/25/17 9/30/17 6/30/17
Kenner	FlyMons	6/4/16	6/3/17		HumpbWha NPA	10/28/16 2/12/16	10/27/17		DreamBig	3/10/17	3/9/18
Kitakyushu	NPA	7/2/16	6/30/17		TinyGian	8/6/16	8/31/17		ExtrWeat	1/11/15	10/14/17
Kolkata SC	JTS	7/1/16	7/1/17		WildAfri	3/12/16	3/31/17		FOFB	10/12/12	9/30/17
Krakow CC	G3DNW	6/18/14	9/19/17		WOTA	7/1/16	6/30/17		JMC SO	7/3/15	3/17/17
KSC 1	JTS	2/27/15		Paris Geo	HumpbWha JTTS	7/7/15 3/1/17	3/1/17		NPA	3/18/16	2/11/17
Kurashiki	MA	7/5/16	7/4/17		TTA	10/6/15	6/1/17	San Jose Tech	SeaMonst	2/2/17	9/4/17
Kuwait SCK	FlyMons	9/5/16	9/4/17		JTS	10/1/16	3/31/17		DreamBig	2/17/17	2/16/18
	HumpbWha	7/6/16	7/5/17		NPA	1/27/17	7/28/17		ExtrWeat	10/15/16	10/14/17
	JMC SO	7/17/15	7/17/17		FOFB	4/1/16	8/26/17		FOFB	2/9/13	6/30/17
Las Palmas	TinyGian	5/30/16	5/30/17	Parker	NPA	3/27/17	9/3/17		Jerusale	3/15/15	6/20/17
	WWDP3D	5/30/16	5/30/17	Penrith	SFLIS	1/1/17	4/30/17		JTS	4/30/16	6/30/17
Lehi	AsterME	5/27/16	5/30/17	Pensacola NAM	DreamBig	3/1/17	6/30/18		L&C	6/8/16	6/20/17
	ExtrWeat	10/15/16	10/14/17		MOF	11/8/96			LITAOA	3/5/16	3/4/17
	JTS	1/1/16	6/30/17		NPA	9/5/16	9/4/17		MOTUW	8/30/14	6/20/17
	LastReef	6/24/16	6/30/17		DreamBig	2/18/17	2/17/18		NPA	2/12/16	2/11/17
	MOC	9/1/16	8/31/17	Peoria RM	DSC	1/1/17/16	11/16/17	San Simeon DCI	HCBDT	8/17/96	
	NPA	3/24/17	3/2/18		ExtrWeat	10/15/16	10/14/17	Seattle PSC 1	GlobSoun	10/1/16	10/1/17
	WWDP3D	9/26/14	9/30/17		FOFB	4/1/16	8/26/17		JMC SO	9/30/16	3/30/17
Leon Exp	Dragons	1/13/17	2/7/17		Jerusale	11/14/15	11/4/17		TinyGian	9/12/15	9/12/17
Lodz CC	Bugs	8/24/15	8/24/17		JTS	6/11/16	12/31/17	Seattle PSC 2	D-Day	3/29/14	6/30/19
	G3DNW	6/18/14	9/19/17		NPA	8/27/16	8/26/17		DreamBig	2/17/17	2/16/18
London BFI Ode	MOC	1/20/17	1/31/18		VanGogh	3/22/16	2/1/17		G3DNW	11/20/15	4/30/17
	NPA	2/12/16		Philadelphia FI	FlyMons	11/25/16			NPA	2/12/16	2/11/17
London SM	Bugs	10/22/16	3/22/17		G3DNW	9/6/16	9/5/17		TTA	1/20/17	12/31/17
Los Angeles CSC	DreamBig	2/17/17	2/16/18		NPA	2/20/16	2/19/17	Shanghai 3D STM	GCA		3/1/17
Louisville KSC	ExtrWeat	10/15/16	10/14/17		RobotsNG	10/1/16	10/1/17		JMC SO	12/31/16	12/31/17
	FON	6/18/15	7/2/17	Phoenix ASC	DreamBig	2/17/17	2/16/18		NPA	6/1/16	6/1/17
	FOFB	9/30/12	6/30/17		FOFB	10/7/16	3/1/18	Shenyang LSTM	JMC SO	11/1/16	11/1/17
	G3DNW	6/18/15	6/30/17		GWS	9/15/16	9/30/17	Shijiazhuang HST	Alaska	1/1/17	1/1/19
	Jerusale	1/20/14	7/2/17		JTS	10/1/16	10/1/17	Shreveport	NPA	2/12/16	2/11/17
	JTS	4/3/15	6/30/18		NPA	9/17/16	3/2/17	Singapore DC	ACGOTS	8/1/16	3/31/17
	L&C	7/1/16	7/2/17	Pittsburgh CSC	RobotsNG	9/17/16		Singapore SC	MOTUW	6/13/16	12/31/17
	LastReef	2/8/14	6/30/17		DreamBig	2/17/17	2/16/18	Sinsheim	NPA	3/4/16	2/28/17
	NPA	2/12/16	2/11/17		ExtrWeat	10/15/16	10/14/17	Sioux Falls	AOTE	4/1/16	6/30/17
	PTJH	7/4/14	7/2/17		FOFB	3/15/13	7/3/17		IncrPred	12/22/16	6/30/18
Lubbock SS	JTTS	11/25/16	5/26/17		HumpbWha	6/17/16	3/1/17		JTS	8/19/16	8/19/17
	NPA	5/20/16	5/19/17		NPA	2/12/16	2/11/17		LastReef	1/30/15	6/30/17
	SFLIS	10/7/16	10/6/17	Poitiers Imax	SeaMonst	7/1/16	12/31/17		NPA	8/13/16	8/12/17
Lucerne	HumpbWha	10/6/16	10/5/17	Poitiers Solido	TinyGian	4/1/16	4/30/17	Speyer Dome	RobotsNG	3/4/16	
	JMC SO	3/17/16	3/16/17	Port of Spain	JMC SO	2/1/16	12/31/17		Dolphins	8/22/12	3/1/17
	JTS	11/26/16	11/26/17	Portland OMSI ET	DreamBig	2/17/17	2/16/18		Dolphins		12/31/17
Matsusaka	Penguins	1/14/17	4/16/17		Jerusale	11/18/13	5/30/17	Stockholm	MOF		3/1/17
McMinnville	ExtrWeat	10/27/16	10/26/17		L&C	7/21/15	7/20/17		JTTS		3/1/17
	FightPil	3/23/12		Poznan CC	NPA	2/12/16	2/11/17	Sudbury	WildAfri	6/1/16	6/30/17
	LOF	3/23/12		Prague CC	G3DNW	6/18/14	9/19/17		D-Day	5/30/16	6/1/17
	Rescue	6/1/12		Puebla PDP	G3DNW	5/22/14	5/21/17		DreamBig	2/17/17	2/16/18
Melbourne MV	AMMM	7/11/16		Quebec Cpx	Sharks3D	4/1/16	4/1/17		ExtrWeat	10/15/16	10/14/17
	G3DNW	4/11/16	4/10/17	Raleigh	NPA	6/24/16	6/23/17		GWS	3/3/16	3/31/17
	MA	1/1/17	1/1/18		D-Day	5/23/14	2/1/17		JMC SO	3/11/17	9/10/17
	NPA	2/25/16	2/24/17		DreamBig	2/17/17	2/16/18		NPA	2/12/16	2/11/17
	SFLIS	3/16/17	3/22/18	Regina	ExtrWeat	10/17/16	10/14/17	Sydney WBS	TinyGian	6/4/16	5/31/17
Memphis Pink	ACGOTS	5/7/16	6/22/18		HumpbWha	3/20/15	3/1/17	Syracuse MOST	NPA	2/25/16	2/24/17
	FOFB	3/1/14	5/27/17	Richmond SMV	Jerusale	2/21/14	2/28/17		Amazon	4/1/16	5/31/17
	JMC SO	6/25/16	6/23/17		MOTUW	11/1/15	10/31/17		Dolphins	4/1/16	5/31/17
	JTS	1/9/16	5/29/17		NPA	2/27/16	2/26/17		Dragons	7/2/16	7/1/17
	NPA	3/5/16	3/4/17		DreamBig	2/17/17	2/16/18		FOFB	7/4/15	7/3/17
	WildAfri	1/7/17	5/28/17		ExtrWeat	10/15/16	10/14/17	Taichung NMNS	JTS	10/1/16	4/1/17
Mexicali	DinoAliv	11/5/16	5/31/17		NPA	2/12/16	2/11/17	Taipei AM	JTS	7/1/16	6/30/17
	Jerusale	2/9/17			DreamBig	2/18/17	2/17/18	Tallahassee CLC	JTS	7/1/16	7/1/17
	MOTUW	11/20/15	5/30/17		FOFB	5/1/13	6/30/18		DreamBig	2/17/17	2/16/18
Mexico City Pap	DreamBig	3/15/17	3/14/18		GCA	6/1/16	3/1/17		FOFB	1/18/13	6/30/17
Mexico City PAP	HumpbWha	11/16/16	11/15/17		HumpbWha	3/14/15	3/1/17		HidUniv		3/1/17
Mexico City Pap	NPA	3/18/16	3/17/17		NPA	4/10/16	4/9/17		HumpbWha	2/20/15	3/1/17
Milwaukee	ExtrWeat	10/15/16	10/14/17		SeaMonst	6/20/14	8/31/17		LastReef	1/17/14	6/30/17
	Jerusale	10/9/15	7/30/17		WildAfri	2/1/17			NPA	2/19/16	2/18/17
	MOTUW	10/1/14	7/30/17		ToFly	7/1/16	6/30/18		RobotsNG	10/16/15	10/14/17
	NPA	9/17/16	9/16/17	Rochester MSC	FOFB	8/13/13	6/30/17		WildAfri	5/15/16	5/31/17
	PTJH	6/13/14	6/30/17	Sacramento Imx	GWS	2/20/15	6/30/17	Tampa MOSI	DinoAliv	1/30/16	6/30/17
	SeaMonst	2/5/16	2/4/17		HumpbWha	8/19/16	5/30/17		GWS	1/1/16	6/30/18
	WWDP3D	2/1/16	6/30/17		LastReef	5/20/16	6/30/17		NPA	2/12/16	2/11/17
Mobile	DinoAliv	9/24/16	4/14/17	Saint Augustine	NPA	2/19/16	2/18/17		RobotsNG	10/5/16	10/4/17
	GWS	5/28/16	5/30/17		DreamBig	2/17/17	2/16/18	Thessaloniki	WildAfri	12/1/16	11/30/17
	Mummies	5/28/16	5/30/17		FOFB	1/18/13	12/31/17	Tijuana	Dragons	10/1/16	9/30/17
Monterrey Pap	WildAfri	1/20/17	5/28/17		G3DNW	4/1/15	4/30/17		HumpbWha	7/15/16	7/14/17
	HidUniv	10/25/16	2/23/17		Gruffalo	1/1/15	12/31/17		JTS	4/1/16	4/1/17
	JTTS	12/10/16	4/10/17		GruffChi	2/1/15	12/31/17		NPA	2/19/16	2/18/17
Montreal SC	HumpbWha	9/23/16	6/16/17		NPA	2/12/16	2/11/17		TTL	3/1/17	3/31/17
	NPA	2/20/17	2/19/18		RobotsNG	8/1/16	7/30/17		VanGogh	3/24/17	3/23/18
Moscow Kin	G3DNW	10/6/14	8/31/17		ROTB	10/3/15	12/31/17		WildAfri	10/1/16	3/31/17
	LastReef	6/1/16	10/31/17		WWDP3D	1/9/17	1/31/18	Toronto OSC	DreamBig	2/17/17	8/16/18
	TTA	1/11/16	12/31/17	Saint Félicien	TinyGian	5/1/16	5/1/17		NPA	7/1/16	6/30/17
Nanchang JTSC	JAC	11/10/16	11/10/17	Saint Louis SC	DreamBig	2/17/17	2/16/18	Toyohashi	G3DNW	3/1/17	6/30/17
New Delhi ICC	ND				L&C	8/1/15	7/30/17	Valencia Spn	FOFB	7/1/15	6/30/17
New Orleans	G3DNW	12/22/16	2/28/17		MOC	10/1/16	10/1/17		HidUniv		6/1/17
	GWS	12/26/16	12/31/17		NPA	2/12/16	2/11/17		MOTUW	7/1/14	6/30/17
	HOTB		12/31/17		Everest	3/3/17	5/1/17		NPA	10/7/16	10/6/17
	JMC SO	2/12/16	2/2/17	Saint Paul SMM	FOFB	7/1/16	6/30/17		RobotsNG	3/1/16	3/10/17
New York AMNH	HumpbWha	3/3/17	9/3/17		MOTN	3/3/17	5/4/17		SeaMonst	7/1/16	12/31/17
	WOTA	9/2/16	3/31/17		NPA	3/4/16	2/11/17		WWDP3D	7/1/16	7/31/17
Niagara Can DCI	Niagara	7/1/86			TTA	3/3/17	5/4/17	Vancouver TWS	Bugs	3/1/06	6/30/17
Niagara NY DCI	Niagara	5/1/07							D-Day	11/7/15	11/12/17

Theater	Film	Open	Close	Theater	Film	Open	Close	Theater	Film	Open	Close
Victoria DCI	DreamBig	3/4/17	2/16/18	Virginia Beach AMSC	G3DNW	9/4/15	6/30/18	Washington NASM	DreamBig	2/17/17	2/16/20
	FOTB	6/16/13	6/30/17		LITAOA	6/10/16	6/9/17	Washington NMNH	JTS	3/6/15	
	HumanBod	7/1/16	6/30/18		NPA	2/12/16	3/3/17		ToFly	3/7/16	12/31/17
	NPA	2/12/16	2/11/17		TinyGian	12/2/16	12/2/17		JMC SO	3/20/15	3/20/17
	TOTIA	6/1/16	6/30/17		ExtrWeat	10/15/16	10/14/17	Yellowstone	MOTUW	9/28/14	9/30/17
	WOTA	1/1/17	1/31/18		G3DNW	5/28/16	10/27/17		NPA	2/12/16	2/11/17
	AMMM	2/3/17	3/12/17		MOTUW	2/1/16	2/11/17		NPA	5/1/16	4/30/17
	DreamBig	3/17/17	3/16/18		NPA	2/12/16	2/11/17		Yell	5/1/14	12/31/17
	ExtrWeat	10/28/16	10/14/17	Vulcania Warsaw CC	TA	3/13/16					
	FOTB	4/5/13	6/30/17		G3DNW	6/18/14	9/19/17				

Key to Film Abbreviations

Film	Title	Year		Dist	Film	Title	Year		Dist
ACGOTS	Aircraft Carrier: Guardian of the Seas	2016	3D	K2	ND	Neelkanth Darshan	2005		unk
Africa	Africa: the Serengeti	1994		K2	Niagara	Niagara: Miracles, Myths, and Magic	1987		K2
AIWC	Adventures in Wild California	2000		MFF	NPA	National Parks Adventure	2016	3D	MFF
Alaska	Alaska: Spirit of the Wild	1997		K2	Ozarks	Ozarks: Legacy and Legend	1993		IMAX
Amazon	Amazon	1997		MFF	Penguins	Penguins 3D	2013	3D	nWP
AMMM	Amazing Mighty Micro Monsters 3D	2016	3D	SER	PTJH	Pandas: The Journey Home	2014	3D	NGD
AOTE	Antarctica 3D: On the Edge	2014	3D	GSF	Rescue	Rescue 3D	2011	3D	K2
AsterME	Asteroid: Mission Extreme	2016	3D	NGD	RobotsNG	Robots	2015	3D	NGD
BeauPlan	Beautiful Planet, A	2016	3D	IMAX	ROF	Ring of Fire	1991		MFF
Bugs	Bugs!	2003	3D	SKF	RogueOne	Rogue One: A Star Wars Story	2016	3D	WDPD
CRA	Coral Reef Adventure	2003		MFF	ROTB	Room on the Broom	2015	3D	B&D
D-Day	D-Day: Normandy 1944	2014	3D	K2	SeaMonst	Sea Monsters: A Prehistoric Adventure	2007		NGD
DinoAliv	Dinosaurs Alive	2007	3D	GSF	SFLIS	Search for Life In Space 3D, The	2016	3D	MFF
Dolphins	Dolphins	2000		MFF	Sharks3D	Sharks 3D	2004	3D	3DED
Dragons	Dragons: Real Myths and Unreal Creatures	2013	3D	B&D	SpaceNex	Space Next 3D	2015	3D	B&D
DreamBig	Dream Big: Engineering Wonders of the World	2017	3D	MFF	SpacJunk	Space Junk	2012	3D	K2
DSC	Deepsea Challenge 3D	2015	3D	NGD	TA	Tornado Alley	2011	3D	GSF
EarthFli	Earthflight	2017	3D	GSF	TinyGian	Tiny Giants 3D	2014	3D	GSF
Everest	Everest	1998		MFF	ToFly	To Fly!	1976		MFF
ExtrWeat	Extreme Weather	2016	3D	NGD	TOTIA	Titans of the Ice Age	2013	3D	GSF
FightPil	Fighter Pilot: Operation Red Flag	2004	3D	K2	TTA	To the Arctic	2012	3D	IMAX
FlyMons	Flying Monsters 3D	2011	3D	NGD	TTL	To The Limit	1989		MFF
FMTTM	Fly Me to the Moon	2008	3D	nWP	VanGogh	Van Gogh: Brush with Genius	2009		MFF
FON	Forces of Nature	2004		NGD	VOT	Voyage of Time	2016		IMAX
FOTB	Flight of the Butterflies	2012	3D	SKF	WATE	Wild Australia: The Edge	1997		NGD
G3DNW	Galapagos 3D: Nature's Wonderland	2014	3D	nWP	WildAfri	Wild Africa 3D	2015	3D	GSF
GC	Grand Canyon: The Hidden Secrets	1985		K2	WildOcea	Wild Ocean	2008	3D	GSF
GCA	Grand Canyon Adventure: River at Risk 3D	2008	3D	MFF	WM	Watermelon Magic	2013	3D	B&D
GlobSoun	Global Soundscapes: Mission to Record the Earth	2016	3D		WOTA	Wonders of the Arctic	2014	3D	GSF
	FIC				WWDPP3D	Walking With Dinosaurs: Prehistoric Planet 3D	2014	3D	GSF
Greece	Greece: Secrets of the Past	2006		MFF	Yell	Yellowstone	1994		GSF
Gruffalo	Gruffalo, The	2014	3D	B&D					
GruffChi	Gruffalo's Child	2015	3D	B&D					
GWS	Great White Shark	2013	3D	GSF					
HCBTD	Hearst Castle: Building the Dream	1996		K2					
HidUniv	Hidden Universe	2013	3D	MFF					
HOTB	Hurricane on the Bayou	2006		MFF					
HumanBod	Human Body, The	2001		NGD					
HumpbWha	Humpback Whales	2015	3D	MFF					
IncrPred	Incredible Predators	2016	3D	GSF					
Jerusale	Jerusalem	2013	3D	NGD					
JIAC	Journey into Amazing Caves	2001		MFF					
JMCSO	Jean-Michel Cousteau's Secret Ocean	2015	3D	3DED					
JTM	Journey to Mecca	2009		SKF					
JTS	Journey to Space	2015	3D	K2					
JTTSP	Journey to the South Pacific	2013	3D	MFF					
L&C	Lewis & Clark: Great Journey West	2002		NGD					
LastReef	Last Reef, The	2012	3D	GSF					
LITAOA	Living in the Age of Airplanes	2015		NGD					
LivingSe	Living Sea, The	1995		MFF					
LOF	Legends of Flight	2010	3D	K2					
MA	Museum Alive 3D	2016	3D	SER					
MOC	Mysteries of China	2016	3D	GSF					
MOF	Magic of Flight, The	1997		MFF					
MOTN	Mystery of the Nile	2005		MFF					
MOTUW	Mysteries of the Unseen World	2013	3D	NGD					
Mummies	Mummies: Secrets of the Pharaohs	2007		GSF					

Feb.-March 2017 Bookings Count							
#	Film	#	Film	#	Film	#	Film
92	NPA	6	SFLIS	2	HumanBod	1	JTM
45	DreamBig	5	FightPil	2	JIAC	1	LivingSe
31	JTS	5	JTTSP	2	MA	1	LOF
30	FOTB	5	LITAOA	2	MOF	1	ND
28	G3DNW	5	PTJH	2	Mummies	1	Ozarks
23	ExtrWeat	4	ACGOTS	2	Niagara	1	ROF
22	HumpbWha	4	FlyMons	2	Penguins	1	RogueOne
19	JMCSO	4	HidUniv	2	Rescue	1	ROTB
19	WildAfri	4	SpaceNex	2	ToFly	1	Sharks3D
14	MOTUW	4	TTA	1	Africa	1	SpacJunk
13	RobotsNG	4	WOTA	1	AIWC	1	TA
13	TinyGian	3	AMMM	1	Alaska	1	TOTIA
10	GWS	3	Dragons	1	Amazon	1	TTL
10	Jerusale	3	DSC	1	AOTE	1	VOT
10	LastReef	3	Everest	1	BeauPlan	1	WATE
10	WWDPP3D	3	FON	1	CRA	1	WildOcea
9	D-Day	3	GCA	1	EarthFli	1	WM
8	L&C	3	IncrPred	1	GC	1	Yell
7	Bugs	3	MOTN	1	GlobSoun		
7	DinoAliv	3	VanGogh	1	Greece		
7	MOC	2	AsterME	1	Gruffalo		
6	Dolphins	2	FMTTM	1	GruffChi		
6	SeaMonst	2	HOTB	1	HCBTD		

Feb.-March 2017 Bookings Count

#	Film	#	Film	#	Film	#	Film
92	NPA	6	SFLIS	2	HumanBod	1	JTM
45	DreamBig	5	FightPil	2	JIAC	1	LivingSe
31	JTS	5	JTTSP	2	MA	1	LOF
30	FOTB	5	LITAOA	2	MOF	1	ND
28	G3DNW	5	PTJH	2	Mummies	1	Ozarks
23	ExtrWeat	4	ACGOTS	2	Niagara	1	ROF
22	HumpbWha	4	FlyMons	2	Penguins	1	RogueOne
19	JMC SO	4	HidUniv	2	Rescue	1	ROTB
19	WildAfri	4	SpaceNex	2	ToFly	1	Sharks3D
14	MOTUW	4	TTA	1	Africa	1	SpacJunk
13	RobotsNG	4	WOTA	1	AIWC	1	TA
13	TinyGian	3	AMMM	1	Alaska	1	TOTIA
10	GWS	3	Dragons	1	Amazon	1	TTL
10	Jerusale	3	DSC	1	AOTE	1	VOT
10	LastReef	3	Everest	1	BeauPlan	1	WATE
10	WWDP3D	3	FON	1	CRA	1	WildOcea
9	D-Day	3	GCA	1	EarthFli	1	WM
8	L&C	3	IncrPred	1	GC	1	Yell
7	Bugs	3	MOTN	1	GlobSoun		
7	DinoAliv	3	VanGogh	1	Greece		
7	MOC	2	AsterME	1	Gruffalo		
6	Dolphins	2	FMTTM	1	GruffChi		
6	SeaMonst	2	HOTB	1	HCBTD		

Directory of Organizations Mentioned in this Issue of LF Examiner

Distributors' abbreviations are listed in **bold**.

<p>3D Entertainment Distribution Ltd. 3DED Ibex House 61-65 Baker Street Weybridge, Surrey KT13 8AH UNITED KINGDOM Tel: +44 20-7681-2357 Fax: +44 20-7681-2357 www.3DEFilms.com</p> <p>Achtel Pty. Ltd. 913 Coles Bay Road Coles Bay, TAS 7215 AUSTRALIA www.achtel.com</p> <p>Advanced Imaging Society , USA www.advancedimagingociety.com</p> <p>Afterglow Studios 527 Marquette Ave. #2500 Minneapolis, MN 55402 USA www.afterglowstudios.com</p> <p>Archipelago Films 1600 Spring Valley Rd Ossining, NY 10562 USA Tel: 914-271-2171 www.archipelagofilms.com</p> <p>Atlantic Productions Brook Green House 4 Rowan Road, Hammersmith London, W6 7DU UNITED KING- DOM Tel: +44 20 8735 9300 Fax: +44 20 8735 9333 www.atlanticproductions.co.uk</p> <p>BBC Earth Television Centre, 101 Wood Lane London, W127FA UNITED KING- DOM http://bbcearth.com/</p> <p>BIG & Digital B&D 2900 Sunridge Heights Pkwy., #1218 Henderson, NV 89052 USA Tel: 502-212-1559 http://biganddigital.com/</p> <p>Blaze Cineworks LLC 10460 Roosevelt Blvd N., #180 St. Petersburg, FL 33716 USA Tel: 203-292-5745 Fax: 203-404-4998 http://blazecineworks.com</p> <p>Bona Film Group 18/F, Tower A, U-town Office Building 1 San Feng Bei Li, Chaoyang District Beijing, 100020 CHINA Tel: +8610 5631 0700 www.bonafilm.cn</p> <p>Branson's IMAX Entertainment Complex 3562 Shepherd of the Hills Express- way Branson, MO 65616 USA Tel: 417-335-3533 Fax: 417-336-5348 www.bransonimax.com</p> <p>Broad Green Pictures BGP 6555 W. Barton Avenue, Second Floor Los Angeles, CA 90038 USA www.broadgreen.com/</p> <p>Bullock Texas State History Museum 1800 N Congress Avenue Austin, TX 78701 USA Tel: 512-936-4600 Fax: 512-475-3366 www.thehistoryoftexas.com/</p>	<p>California Academy of Sciences 55 Music Concourse Drive Golden Gate Park San Francisco, CA 94118 USA www.calacademy.org</p> <p>Canadian Museum of History 100 Laurier Street Gatineau, QC K1A 0M8 CANADA Tel: 819-776-7021 Fax: 819-776-7122 www.historymuseum.ca/visit/ cineplus/</p> <p>Christie Digital Systems USA, Inc. 10550 Camden Drive Cypress, CA 90630 USA Tel: 714-236-8610 Fax: 714-229-7128 www.christiedigital.com</p> <p>Cincinnati Museum Center 1301 Western Avenue Cincinnati, OH 45203 USA Tel: 513-287-7014 Fax: 513-287-7079 www.cincymuseum.org</p> <p>Cinema Group, Inc. CGI 464 S. Ranch Drive Alpine, UT 84004 USA Tel: 801-772-0860</p> <p>Cité des Sciences et de l'Industrie 30 Avenue Corentin-Cariou Paris, 75019 FRANCE Tel: +33 1 4005 7353 Fax: +33 1 4005 8237 www.cite-sciences.fr</p> <p>Colossus Productions Brook Green House 4 Rowan Road, Hammersmith London, W6 7DU UNITED KING- DOM Tel: +44 20 8735 9300 www.colossusproductions.co.uk/</p> <p>Columbia Pictures COL 10202 W. Washington Blvd. Culver City, CA 90232 USA www.sonypictures.com/</p> <p>Cosmic Picture 6000 3E Avenue Montreal, QC H1Y 2X3 CANADA Tel: 514-279-0046</p> <p>Cradle of Aviation Museum One Davis Avenue Garden City, NY 11530 USA Tel: 516-572-4111 www.cradleofaviation.org</p> <p>D3D Cinema 990 Grove St., Suite 200 Evanston, IL 60201 USA Tel: 847-475-9140 Fax: 847-475-9145 www.d3dcinema.com/</p> <p>December Media Level 1, 462 City Rd South Melbourne, Victoria 3205 AUSTRALIA Tel: +61-3-9699 8911 Fax: +61-3-9699-8611 www.decembermedia.com.au</p>	<p>Denver Museum of Nature and Science 2001 Colorado Boulevard Denver, CO 80205-5732 USA Tel: 303-322-7009 Fax: 303-370-6044 www.dmnms.org/</p> <p>Destination Cinema, Inc. 3544 Lincoln Avenue, Suite C Ogden, UT 84401 USA Tel: 801-392-2001 Fax: 801-392-6703 www.destinationcinema.com</p> <p>Digital Cinema Initiatives, LLC 6834 Hollywood Blvd, Ste 500 Hollywood, CA 90028 USA Tel: 323-769-2885 Fax: 323-769-2895 www.dcmovies.com</p> <p>Digital Crossing Productions 14 Jerome Street Toronto, ON M6P 1H7 CANADA http://digitalcrossing.ca/</p> <p>Ecocine Verdon EV Avenue Pierre Brossolette Gréoux-les-Bains, 04800 FRANCE Tel: +44 04 92 79 82 18 http://ecocine.fr/</p> <p>Electrosonic Systems, Inc. 3320 North San Fernando Boulevard Burbank, CA 91504 USA Tel: 818-566-3045 Fax: 818-566-7763 http://electrosonic.com</p> <p>Eugenides Planetarium 387 Sygrou Avenue Paleo Faliro Athens, 17564 GREECE Tel: +30-1-941-1181 Fax: +30-1-943-171 www.eugenfound.edu.gr</p> <p>Euromax PO Box 61667 Hague, NL-2506 JK NETHER- LANDS Tel: +31-70-4168216 Fax: +31-70-3524280 www.euromax.org</p> <p>Evans & Sutherland 770 Komars Drive Salt Lake City, UT 84108-1229 USA Tel: 801-588-1000 Fax: 801-588-4500 www.es.com</p> <p>Fernbank Museum of Natural History 767 Clifton Road N.E. Atlanta, GA 30307 USA Tel: 404-929-6300 Fax: 404-378-8140 www.fernbankmuseum.org/</p> <p>Forrester Research, Inc. 60 Acorn Park Drive Cambridge, MA 02140 USA Tel: 617-613-5730 https://www.forrester.com</p> <p>Futuroscope BP 2000 Jaunay-Clan, 86130 FRANCE Tel: +33-5-49 49 30 00 Fax: +33-5-49 49 30 30 www.futuroscope.fr</p>	<p>Gartner Inc. 56 Top Gallant Road Stamford, CT 06902 USA Tel: 203-964-0096 www.gartner.com</p> <p>Giant Screen Cinema Association 624 Holly Springs Road Suite 243 Holly Springs, NC 27540 USA Tel: 919-346-1123 www.giantscreencinema.com</p> <p>Giant Screen Films GSF 990 Grove St., Suite 200 Evanston, IL 60201 USA Tel: 847-475-9140 Fax: 847-475-9145 www.gsfilms.com</p> <p>Golden Gate 3D 300 California Avenue Building Two, Treasure Island San Francisco, CA 94130 USA Tel: 415-779-4433 http://gg3d.com/</p> <p>Goto Optical Manufacturing Co. 4-16 Yazaki-cho Fuchu-shi Tokyo, 183-8530 JAPAN Tel: +81-423-62 5311 Fax: +81-423-61 9571 www.goto.co.jp</p> <p>Great Lakes Science Center 601 Enneside Ave. Cleveland, OH 44114 USA Tel: 216-696-2844 Fax: 216-736-7905 www.glsc.org</p> <p>Happy Planet Productions 7058 Bianca Ave. Lake Balboa, CA USA Tel: 818-207-3037 http://happyplanetproductions.org</p> <p>Hearst Castle Theater PO Box 160 100 Hearst Castle Road San Simeon, CA 93452 USA Tel: 805-927-6811 Fax: 805-927-6701 http://hearstcastle.org/theater/</p> <p>Houston Museum of Natural Science 5555 Hermann Park Drive Houston, TX 77030-1799 USA Tel: 713-639-4600 Fax: 713-523-4125 www.hmns.org</p> <p>Ian McLennan Consulting 1275 Haro Street, #404 Vancouver, BC V6E 1G1 CANADA Tel: 604-981-4790 Fax: 604-981-4790 www.ianmclennan.com</p> <p>Imax Corporation IMAX 2525 Speakman Drive Mississauga, ON L5K 1B1 CANA- DA Tel: 905-403-6500 Fax: 905-403-6450 www.imax.com</p> <p>IMERSA , USA www.imersa.org</p>	<p>Immersive VR Education Ltd. Unit 1, Waterford Industrial Park, Cork Road Waterford, IRELAND Tel: +353 51 373 236 http://immersivvreducation.com/</p> <p>International Planetarium Society 317 Flanagan Hall East Carolina University Greenville, NC 27858 USA Tel: 252-328-9365 Fax: 252-328-9371 www.ips-planetarium.org</p> <p>Jackson Hole Wildlife Film Festival 240 S. Glenwood, Suite 112 PO Box 3940 Jackson Hole, WY 83001 USA Tel: 307-733-7016 Fax: 307-733-7376 www.jhfestival.org</p> <p>Jennifer Casey Productions 347 N Catalina St Burbank, CA 91505-3616 USA Tel: 818-842-5451 https://www.facebook.com/pages/ Jennifer-Casey- Productions/9046512429283757</p> <p>K2 Communications K2 880 Apollo Street, Suite 239 El Segundo, CA 90245 USA Tel: 310-524-9100 Fax: 310-524-1540 www.k2communications.com/</p> <p>La Geode 26 avenue Corentin Cariou Paris, 75019 FRANCE Tel: +33-1-4005-7904 Fax: +33-1-4005-7906 www.lageode.fr</p> <p>Lightstorm Entertainment 919 Santa Monica Boulevard Santa Monica, CA 90401 USA Tel: 310-656-6100</p> <p>Lionsgate LG 2700 Colorado Ave., Suite 200 Santa Monica, CA 90404 USA Tel: 310-255-3700 Fax: 310-255-3870 www.lionsgate.com</p> <p>Loch Ness Productions P. O. Box 924 Nederland, CO 80466-0924 USA Tel: 303-642-7250 Fax: 303-642-7249 www.lochnessproductions.com</p> <p>Lootch Krasnoyarsk, RUSSIA</p> <p>LucasFilm Ltd. PO Box 2009 San Rafael, CA 94912 USA Tel: 415-662-1800 Fax: 415-662-2437 www.lucasfilm.com</p> <p>MacGillivray Freeman Films, Inc. MFF PO Box 205 Laguna Beach, CA 92652 USA Tel: 949-494-1055 Fax: 949-494-2079 www.macfreefilms.com</p>	<p>Marvel Studios 1600 Rosecrans Ave Manhattan Beach, CA 90266-3708 USA Tel: 310-550-3100 www.marvel.com/</p> <p>Master's Digital, Inc. 8867 Forest Park Dr Saanichton, BC V8L 5A7 CANADA Tel: 250-412-2629 www.mastersdigital.com/</p> <p>Metro-Goldwyn-Mayer MGM 245 N Beverly Dr Beverly Hills, CA 90210 USA Tel: 310 449 3000 www.mgm.com/</p> <p>Milbrand Cinema Los Gatos, CA USA www.inthewakeofthedolphin.com</p> <p>Milwaukee Public Museum 800 West Wells Street Milwaukee, WI 53233-2309 USA Tel: 414-278-2700 Fax: 414-278-6100 www.mpm.edu/</p> <p>Montreal Science Centre 333, rue de la Commune St. W. Montreal, QC H2Y 4B2 CANADA Tel: 514-283-0548 Fax: 514-283-1827 www.montrealsciencecentre.com</p> <p>Museum of Discovery and Science 401 SW Second St. Fort Lauderdale, FL 33312 USA Tel: 954-467-6637 Fax: 954-467-0046 www.mods.org</p> <p>Museum of Science and Industry 5700 S. Lake Shore Drive Chicago, IL 60637 USA Tel: 773-684-1414 Fax: 773-684-5678 www.msichicago.org</p> <p>N3D Land Films 10 place du theatre Sevres, 92310 FRANCE Tel: + 33-6 88 88 87 78 www.n3dland.com/</p> <p>National Air and Space Museum 6th & Independence Ave. SW Washington, DC 20560 USA Tel: 202-357-1675 Fax: 202-357-1652 www.nasm.si.edu/</p> <p>National Geographic Cinema Ventures NGD 485 Lexington Avenue, 3rd Floor New York, NY 10017 USA Tel: 212-656-0724 Fax: 212-656-0701 http:// movies.nationalgeographic.com/ movies/</p> <p>National Geographic Studios NGS 1145 17th Street, NW Washington, DC 20036 USA Tel: 202-857-7665 Fax: 202-775-6517 http:// movies.nationalgeographic.com/ movies/</p>
---	---	--	---	---	---

Directory, cont'd

National Museum of the U.S. Air Force
Wright-Patterson Air Force Base
PO Box 33624
Dayton, OH 45433 USA
Tel: 937-258-1218
Tel: 937-258-3816
www.airformuseum.com

National Naval Aviation Museum
1750 Radford Ave.
NAS Pensacola, FL 32508 USA
Tel: 800-327-5002
Fax: 850-457-3032
www.navalaviationmuseum.org #

Navy Pier IMAX at AMC
600 E. Grand Ave.
Chicago, IL 60611 USA
Tel: 312-595-0090
www.imax.com/chicago/

New Mexico Museum of Space History
Top of New Mexico Highway 2001
Alamogordo, NM 88311 USA
Tel: 575-437-2840
www.nmspacemuseum.org/

No Final Frontier Productions, LLC
Fairfax, VA USA
www.lightsspeedpioneers.com/

NSC Creative
National Space Centre
Exploration Drive
Leicester, LE4 5NS. UNITED KINGDOM
Tel: +44-116-258-2101
http://nsccreative.com

Oceanic Research Group
PO Box 94
North Reading, MA 01864 USA
Tel: 978-664-9091
www.oceanicresearch.org

Omniversum
P.O. Box 30.313
Hague, 2500 GH NETHERLANDS
Tel: +31 70 307 3456
Fax: +31 70 307 3450
www.omniversum.nl

Ontario Place Corporation
955 Lakeshore Boulevard West
Toronto, ON M6K 3B9 CANADA
Tel: 416-314-9773
Fax: 416-314-9989
www.ontarioplace.com

Ontario Science Centre
770 Don Mills Rd.
Toronto, ON M3C 1T3 CANADA
Tel: 416-429-4100
Fax: 416-696-3135
www.ontariosciencecentre.ca/

Pacific Science Center
200 Second Avenue North
Seattle, WA 98109 USA
Tel: 206-443-2001
Fax: 206-443-3631
www.pacsci.org

Paramount Pictures Corporation
PPC
5555 Melrose Avenue
Hollywood, CA 90038-3197 USA
Tel: 323-956-5000
www.paramount.com

Parque del Conocimiento
Av. Ulises López y Ruta 12 s/n.
Posadas, 3300 ARGENTINA
Tel: +54 376 4597580
https://www.parquedelconocimiento.com/

Primesco Communications, Inc. PCI
4342 Sherbrooke West
Montreal, QC H3Z 1E3 CANADA
Tel: 514-874-9551
Fax: 514-874-9068
www.primesco.com/medias/unf.htm

Pulseworks
5100 Highlands Parkway SE
Atlanta, GA 30082 USA
Tel: 770-916-1722
Fax: 770-916-1933
www.pulseworks.com

Pushpa Gujral Science City
SCO 60-61 III Floor
Sector 34 A
Chandigarh, Punjab 160 034 INDIA
Tel: +91-172-507-0474
Fax: +91-1722612914
www.pgsciencecity.org

Ring of Fire Films, Inc.
568 E Iverson Beach Rd
Camano Island, WA 98282 USA
Tel: 360-387-8222
www.globalnetproductions.com/

Riverfront Park
507 N. Howard Street
Spokane, WA 99201 USA
Tel: 509-625-6600
Fax: 509-625-6630
http://spokaneriverfrontpark.com

RPG Productions, Inc.
632 South Glenwood Place
Burbank, CA 91505 USA
Tel: 818-848-0240
Fax: 818-848-2846
www.rpgproductions.com/

Rup'art Productions
Les Eyzies-de-Tayac-Sireuil
24620 FRANCE
www.thefinalpassage.netwww.thefinalpassage.net

Sagamihara City Museum
3-2787-2 Takane
Sagamihara-shi, Kanagawa Pref.
229-0021 JAPAN
Tel: +81-427-50-8030
Fax: +81-427-50-8061
www.remus.dti.ne.jp/#sagami/index.htm

Saint Thomas Productions
Village d'Entreprises Saint Henri
Rue Anne Gacon - Bat 301-302
Marseille, 13016 FRANCE
Tel: +33 4 95 068 068
www.saint-thomas.net/

Science Centre Singapore
15 Science Centre Road, off Jurong Town Hall Road
Singapore, 609081 SINGAPORE
Tel: +65-6425-2500
Fax: +65-6565-9533
www.omnitheatre.com.sg/

Science Museum of Minnesota
120 W. Kellogg Blvd.
Saint Paul, MN 55102 USA
Tel: 651-221-9444
Fax: 651-221-9433
www.smm.org

Science Museum of Virginia
2500 W. Broad Street
Richmond, VA 23220 USA
Tel: 804-864-1400
Fax: 804-367-9348
www.smv.org

Science North SN
100 Ramsey Lake Rd.
Sudbury, ON P3E 5S9 CANADA
Tel: 705-522-3701
Fax: 705-522-4954
www.sciencenorth.ca

Science Spectrum
2579 South Loop 289, Suite 250
Lubbock, TX 79423-1400 USA
Tel: 806-745-2525
Fax: 806-745-1115
www.sciencespectrum.org

Scientific Center of Kuwait
Gulf Road
Salmiya, 22036 KUWAIT
Tel: +965-84-8888
Fax: +965-571-0298
www.tsck.org.kw

SimEx/Iwerks
511 King Street West, Suite 130
Toronto, ON M5V 1K4 CANADA
Tel: 416-597-1585
Fax: 416-597-0352
www.simex-iwerks.com

SK Films, Inc. SKF
Pinewood Toronto Studios
225 Commissioners Street, Suite 303
Toronto, ON M4M 0A1 CANADA
Tel: 416-367-0440
Fax: 647-837-3350
www.skfilms.ca

Sonics ESD
130 1/2 Dunecrest Ave.
Monterey, CA 93940 USA
Tel: 831-646-9711
Fax: 831-646-9870

Sony Pictures Entertainment SPE
10202 West Washington Blvd
Culver City, CA 90232-3195 USA
Tel: 310-244-4000

Stephen Low Company
795 Carson Ave, Suite 6
Dorval, QC H9S 1L7 CANADA
Tel: 514-633-6036
Fax: 514-633-6035
www.stephenlow.com

Stephen Low Distribution, Inc.
795 Carson Ave, Suite 6
Dorval, QC H9S 1L7 CANADA
Tel: 514-633-6036
Fax: 514-633-6035
www.stephenlow.com

SV2 Studios
4836-D Tower Road
Greensboro, NC 27410 USA
Tel: 336-202-4777
www.sv2studios.com/

Tandem Stills + Motion
USA
Tel: 310-597-5200
https://tandemstock.com

Tech Museum of Innovation
201 South Market Street
San Jose, CA 95113-2008 USA
Tel: 408-294-8324
Fax: 408-279-7167
www.thetech.org

Tennessee Aquarium
201 Chestnut Street
Chattanooga, TN 37401 USA
Tel: 423-266-4629
Fax: 423-267-3561
www.tennis.org

The VOID
234 W. 42nd Street
New York, NY 10036 USA
https://thevoid.com

Twentieth Century Fox FOX
10201 W. Pico Blvd.
Los Angeles, CA 90035 USA
Tel: 310-369-3423
www.foxmovies.com

Tycho Brahe Planetarium
Gl. Kongevej 10
Copenhagen, DK-1610 DENMARK
Tel: +45-3314-4888
Fax: +45-3314-2888
www.tycho.dk

Universal Pictures UP
100 Universal City Plaza
Universal City, CA 91608 USA
Tel: 818-777-1000
Fax: 818-622-0407
www.universalstudios.com

University of Southern California
850 West 34th Street
Los Angeles, CA 90089-2211 USA
www.usc.edu

Walt Disney Studios Motion Pictures WDPD
350 S. Buena Vista Street
Burbank, CA 91521-1232 USA
Tel: 818-560-6200
www.disney.go.com

Warner Bros. WB
4000 Warner Blvd.
Burbank, CA 91522 USA
Tel: 818-954-6000
www2.warnerbros.com

Zero Latency
22-32 Steel Street
North Melbourne, VIC 3051 AUSTRALIA
https://zerolatencyvr.com

Classified Ads

Classified Advertising is accepted in the category of Employment. The rate for organizations to post job opening announcements is US\$0.50 per word.

There is no charge for individuals to post an ad in the "Positions Sought" category.

Insert advertising

puts your message in the hands of *LF Examiner's* hundreds of subscribers worldwide.

Advertisers provide their own pre-printed inserts that are placed in each copy of the newsletter.

For rates and our editorial calendar, please send e-mail to editor@LFExaminer.com or call 702-331-1843 between 10 a.m. and 6 p.m. Eastern time.

LF Examiner SUBSCRIPTION ORDER FORM

Enter my one-year subscription to LF Examiner for US\$447. (\$US487 outside North America).
I understand that if at any time I am not completely satisfied I can receive a refund of my full subscription price.

☐ Bill me ☐ Check ☐ Purchase Order

Name (please print)

Company

Address

City

State/Province

Zip/Postal Code

Country

Phone number

E-mail address

LF Examiner • 8713 Castle Hill Ave., Las Vegas, NV 89129, USA • Tel: 702-331-1843 • orders@LFExaminer.com

SHORTS

IMERSA Summit in Denver

About 150 people attended the 2017 **IMERSA Summit** in February, the annual meeting of the association of Immersive Media, Entertainment, Research, Science, and Arts, hosted by the **Denver Museum of Nature and Science**. The meeting featured panel discussions on understanding audiences, selecting fulldome systems, projection technology, content accuracy, and “wow” moments in fulldome shows. Ten fulldome shows were screened, as well as 14 short films and four works in production.

Planetarium veteran and consultant **Ian McLennan** moderated “System Matters,” the session on selecting a fulldome system. **Ryan Wyatt**, of the **California Academy of Sciences** in San Francisco, described the process of upgrading the Morrison Planetarium last year. That project consisted primarily of obtaining higher-quality projectors for the Sky-Skan Definiti system installed in 2008. He said that key to installing any system is developing performance spec that are based on the core functions of the theater.

Chuck Rau, with **Seiler Instruments**, the distributor of **Zeiss** planetarium and fulldome systems in the U.S. and Canada, advised on the process of selecting a consultant to help choose a fulldome system. He recommended that fully independent consultants are generally preferable to either dependent consultants who have business connections to certain vendors or vendors’ reps. “You should avoid paying someone to tell you to buy their products.” He also argued that the current methods of describing fulldome resolution mislead visitors and should be made both more accurate and consistent. Many systems described as “8K” in fact only show images that are 6500 pixels by 6500 pixels, a practice he described as “alternative math.” He called for all system suppliers include one digit to the right of the decimal point in describing their systems, e.g. 6.5K, and urged IMERSA and the **International Planetarium Society** to adopt the same practice in characterizing system resolution.

Evans & Sutherland’s Michael Daut

pointed out that some hardware specifications don’t hold up in a dome. For instance, a projector specs may claim it has a 10,000:1 contrast ratio, “but once you put it in a dome, there’s this thing called ‘physics’ that gets in the way, and depending on the reflectivity of the dome, that may get down to 10:1.” The kind of content that will be shown on the dome will determine which specs are most important. “If your main mission is to present stars in all their glory, with as much contrast as you can muster, then obviously you’re going to lean in that direction. If your purpose is to replace a giant-screen



Donna Cox was honored by IMERSA.

film system, you’re going to lean toward brightness.” He reminded the audience that while the old opto-mechanical planetarium projectors could last decades without major upgrades, the operators of digital fulldome systems have to plan on replacing their projectors every five to seven years. On this point, McLennan said that some fulldome theaters are building amortization of their projectors into their annual budgets so that they will have the funds available when replacement time rolls around.

Jim Barath, with **Sonics ESD**, looked forward to a future in which projecting images onto a reflective surface has been replaced by direct emission: large LED or organic LED (OLED) panels that cover the surface of the dome. There are, of course many obstacles to this technology, including how to curve such screens in

two axes, how to deal with surface reflections from the panels, and how to place speakers in a dome when the screen surface is not acoustically transparent as dome skins are today. So such systems will not be available, or financially viable soon. But they are at least conceptually feasible.

Another highlight of the Summit was the presentation of the IMERSA Lifetime Achievement award to **Donna Cox** of the National Center for Supercomputer Applications at the University of Illinois at Champaign-Urbana. Cox’s work in visualizing complex data, including the motions of stars and galaxies, has enhanced dozens of planetarium and fulldome shows, as well as giant-screen films like *Cosmic Voyage* (1996) and *A Beautiful Planet* (2016).

Euromax in France in June

Registration has opened for the next meeting of **Euromax**, the European giant-screen association, which will be held at **Futuroscope** in France, June 18–20. The meeting will include panel discussions, screenings of new films, and presentations on films in production. At press time, eight new films and seven in-production titles had been confirmed. For more information and to register, visit euromax.com.

The European theme park of the moving image, Futuroscope is home to five IMAX theaters in different formats, including the recently installed IMAX laser system.

GSCA’s 2017 action plan

The board of directors of the **Giant Screen Cinema Association** has released the 2017 Action Plan that it has been developing since holding a session in late 2015 to update the association’s mission, vision, and values. The plan is broken down in three categories: Communication, Theaters, and Films.

Under communication, the association proposes to make useful data more widely available by releasing details from the Audience Research and Member survey, making conference materials and presentations more widely available.

Under theaters, the Certified Giant

(see **SHORTS** on page 16)